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MANUAL OF LINGUISTICS.

MANUAL OF LINGUISTICS

A CONCISE ACCOUNT OF GENERAL AND ENGLISH PHONOLOGY, WITH SUPPLEMENTARY CHAPTERS ON KINDRED TOPICS

BY

JOHN CLARK, M.A.

SECOND CLASSICAL MASTER IN THE HIGH SCHOOL OF DUNDEE

Speech noise
'Φωνῆ καὶ ψόφος ἕτερόν ἐστι.'
ARISTOTLE.

New York: G P. PUTNAM'S SONS
Edinburgh: JAMES THIN
1893

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PREFACE.

I HAVE been told and believe that a book written on the lines of the present one is a desideratum.

Certainly, if a correct knowledge of the whence and the

is buttressed by law. If it has its farthing facts, it has also its solid generalisations. In any case, it is indispensable in linguistic research, which, involving as it does a knowledge of principle, ought to be appraised above mere dictionary etymologising.

I trust that this book will be found useful by any one who wishes to devote some time and attention to the former.

I have built mainly on Brugmann and Sweet. Mr. Mayhew's Old English Phonology and Mr. Wharton's Etyma Latina I have found very helpful. To all Mr. Skeat's books,

CORRIGENDUM.

Page lxvii., line 4. For *pithless stem* read *stemless pith.*

~~111 F 52~~

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UBD

PREFACE.

I HAVE been told and believe that a book written on the lines of the present one is a desideratum.

Certainly, if a correct knowledge of the whence and the wherefore of words have its uses, no one who wishes or is constrained to be a full man in such things can afford to dispense with a knowledge of the facts that I have here tried to set forth.

It has been my object to produce a volume that will, with fair completeness, and in moderate compass, present the main results of modern phonology. I have also sought to round it off by the addition of such supplementary matter as may usefully accompany the main theme.

Phonology is a precise science, as precise as the most fastidious precisian could desire. It is based on truth, it is buttressed by law. If it has its farthing facts, it has also its solid generalisations. In any case, it is indispensable in linguistic research, which, involving as it does a knowledge of principle, ought to be appraised above mere dictionary etymologising.

I trust that this book will be found useful by any one who wishes to devote some time and attention to the former.

I have built mainly on Brugmann and Sweet. Mr. Mayhew's Old English Phonology and Mr. Wharton's Etyma Latina I have found very helpful. To all Mr. Skeat's books, besides direct help, I owe much in the way of momentum. Many contributions to the American Journal of Philology have given me assistance. I think I have generally acknowledged direct help. At all events I cite my authorities. I must not forget to mention how much I have profited by a perusal of Strong's translation of Paul's Principles. From Wheeler's pamphlet on Analogy I have got many hints and illustrations.

That this book is free from blunders I have not the presumption to hope. There must be in it many traces of etymological *Aberglaube.* It would be an easy thing to describe it as consisting of bits of etymological caviare indifferently dressed. With regard to the dressing I plead guilty in advance. It might have been in more competent hands. *Conamur tenues grandia.*

As for errors in execution and detail, I have to say that this book covers a wide field, and that one man's judgment and one pair of eyes are fallible.

It will be an advantage to read, or, at all events, to glance at Chapter V., before reading the others. It contains a description of many sound-processes that are assumed in previous chapters.

Special characters are explained at the proper places. Some of them are necessarily used in advance of their explanation. Pages 13, 14, 27, 32, 51, 75, 84, and 93 contain allusions to such characters. I mean the Index to supply cross-references that may only be hinted at and not paged. The English words in Chapters VIII. and IX. are separately indexed.

JOHN CLARK.

DUNDEE, *May* 1893.

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INTRODUCTION.

THE ARYANS — THEIR CULTURE AND ORIGINAL HOME. THE ORIGIN OF SPEECH.

THE idyllic, but certainly also idealised picture of the ancient Aryans is well known. According to this, they were an agricultural people, and lived the life of simple swains. They possessed towns too, and were not ignorant of the rudiments of fortification. Peace had reigned for a long time in their land, not the *pax Romana* of later times, but the peace that is due to a peace-loving temper and a devotion to rural pursuits. Their family life was happy and sweetly reasonable. At the head of the household were the protector of its weal and the manager of its concerns. The members of the family, the milk-maid daughter and the supporter-brother, had all the virtues that are sisterly and brotherly. A drift towards righteousness was everywhere visible, and morality was so elevated as to suggest a serious falling off on the part of descendants.

The undoubted domestication of a few animals, the presence in the various languages of correlates to πόλις, *pater*, *mater*, θυγάτηρ, *frater*, θέμις, &c., have been made to prove all this, and to answer that *pater*, *mater* are artificial dressings of the older onomatopoetic *lallwörter*, that θυγάτηρ is more likely to mean '*quae lactat*,' or '*quae lactet*,' than 'the milkmaid,' to insist that transferred meanings of roots are not to be taken for primitive, nay, that it is not permissible to assume on the part of the primitive people a clear consciousness of the relation between root and full-grown word, is to evince want of imagination, and to qualify for the name of devotee of Darwinism and dirt.

A careful examination of the letter of the *data* for inference given in language will give us other results, not so taking certainly, nor so flattering to the supreme Caucasian mind, but eminently sensible results, results, too, that are not high-and-dry, but corroborated by conclusions drawn from other sciences.

Some risks have to be guarded against before conclusions can be safely drawn. We must see to it that the word on which we base our argument has a distribution in the languages of the Aryan family sufficiently wide to gain for it the name of primitive, that borrowing has not taken place, that the term applied is not so natural and so plainly suggested by some marked quality in the thing named as to arise independently and at different times, we must take care not to read late and developed meanings into primitive words, and, lastly, we must take care not to draw negative conclusions until we have satisfied ourselves that the word has not once existed and been lost.

It is our inability to fulfil all these conditions that forms one of the chief obstacles in the way of deductions got from a simple analysis of words. To reach the most probable result, assistance has often to be got from many sides, from anthropology, from prehistoric research, from the history of culture. A reconstruction of Aryan culture based, say, on the Indo-European vocabulary in Fick's dictionary, is almost sure to be highly coloured, owing to the fatal facility with which we put our own interpretations on ideas that were then in their rudimentary stages.

So much of our knowledge of Aryan life and culture may be got by inferences from language, that some remarks must be made on that topic.

To begin with, it will be well to notice a theory with regard to the location of the Aryans in their original quarters that will affect our view of the relations of the languages and peoples to one another, and guide us in drawing inferences from the facts that language supplies.

In the chapter on Grimm's Law are set down the following remarks on the primitive state of the Indo-European peoples :—'It must not be supposed that the original tribes dwelt as next-door neighbours within circumscribed limits, for they dwelt at long distances, though still in touch with one another. They observed various attitudes towards the sound-norms, had certainly much in common, but were also predisposed to change in different degrees and along different lines. Each family of languages, each system of sounds had its own idiosyncrasies.'

These statements assume the truth of the *wave* or *transition* theory of Schmidt, approved of by Brugmann, Paul, and Schrader. This theory has supplanted the old or pedigree theory of former writers, according to which there was one homogeneous *Ursprache* with something approaching to a dead level of uniformity, spoken by one people dwelling together in unity of speech-sound and speech-bent, from whom there hived off swarms, which, on geographical disjunction, began to develop differences in language that separated them from the other members of their stock, swarms, however, which still comprised two or more peoples that for a long period were linguistically one.

To the pedigree theory belonged peculiarly the hypotheses of Italo-Graeco-Celtic, Graeco-Latin, and Lithu-Slavo-Teutonic periods, characterised by identity of language, including the common possession of differentiations of the primitive homogeneity.

According to the transition theory, a primitive Indo-European homogeneity, in the sense we attach to an original Teutonic homogeneity, never existed. Characteristic differences of individual languages existed then in some shape, in fact the primitive peoples were not so packed shoulder to shoulder in their original quarters as to present the conditions for the alleged sameness. Settled as they were at considerable distances from one another, though with facility of intercourse, dialectic differences would be accentuated and evolved in many parts of the territory occupied. These spread, according to the laws that regulate the diffusion of dialectic changes and creations, in waves or undulations, as the theory puts it, over the neighbourhood in which the *nidus* they had made for themselves was located.

To realise this, let us suppose the sites for the Aryan peoples set down, with some rough semblance of their present relative positions preserved, in one plan on a minute scale. This will give us some idea of the geographical area on which Teutons, Slavo-Lithuanians, Celts, Italians, Greeks, Indo-Iranians, and Armenians lived together before the dispersion. The spaces between were occupied by transition dialects ('kontinuierliche Vermittelung') which gradually shaded off into one another and into the main languages that bounded them. These have died out with little or no record, and left the abrupt transitions we now encounter.

There are many missing links in language which, if recovered, would infallibly give us more light, and possibly give another complexion to established theories. We have, for instance, no remains of the tongues that were spoken north of Hellas. The Phrygians are said to have come from Thrace, and, if it be true that the Armenian language is descended from Phrygian, we may consider that it contains certain of the links between Greek and Slavonic on the one hand, and Greek and Indo-Iranian on the other, that must have abundantly appeared in Thracian and Phrygian.

Again, when we remember that Armenian contains all the changes of Grimm's Law, we are entitled to suppose that the tract in which its progenitor was spoken was in touch with the Teutonic zone.

It is also permissible to believe that Albanian, as the representative of old Illyrian, forms a link between Greek and Latin.

The wave theory satisfactorily solves contradictions that were presented by the pedigree theory. Not all that was advanced by it could be true. If Greek, a European language, offers such strong resemblances to Indo-Iranian as to warrant from the old point of view the assumption of an Indo-Persico-Greek period, we cannot at the same time have our cut-and-dry European period with a common language.

But the new theory makes it possible for us without contradiction to grasp the possibility of Greek having many strong resemblances to Indo-Iranian, and at the same time manifesting points of connection with Latin, because the truth of the one does not on this theory destroy the conditions for the existence of the other. It was common in the pedigree theory on the strength of like phenomena to group several languages together, and postulate a common original language, ignoring all the while points of similarity on this side and on that, which argued a wider connection, and militated against the existence of a joint language.

There are three classes of resemblances that may obtain between languages, resemblances due to geographical proximity and brought about by natural or political causes, or by the disappearance of some barrier; resemblances that are part of the original inheritance; and resemblances that may be called frontier resemblances, due to contact with various neighbours at various points. The first of these may be such as to justify us in assuming a period of common culture for the peoples concerned. A common language in the strict sense is not to be thought of, for all these allied languages were dialects from the beginning.

One then of the defects of the pedigree theory was its inability to furnish a good-going explanation which would be elastic enough to account for facts all round. For instance, Sanskrit has an *a* where all the European languages, includ-Armenian, have *e*; the palatal guttural has been assibilated in Sanskrit and Letto-Slavonic, e.g., Sk. *śatám*, (cp. L. *centum*), the *bh* of the plural case-suffix seen in Gk. -φιν, L. *bus*, has in Teutonic and Letto-Slavonic become *m* (assuming *m* to be a manifestation of the *bh* suffix), e.g. A.S., dat. and instrum. plu. in *-m*; Celtic and Latin are unique in presenting *r* in the passive; Latin and Greek have all to themselves feminines in *us* and ος.

The pedigree theory never submitted anything that could satisfactorily explain, at one and the same time, not one, but the whole of these facts. The *e* of European languages is undoubtedly part of the original inheritance, the Sk. *a* being of different values, or due to levelling.

The other resemblances come under the head of frontier resemblances. There were zones where such and such influences were at work and prevailed. A careful consideration of the theory ought to make all these points clear.

Another defect of the pedigree theory, and its twin, the original-identical-language theory, was the failure to recognise that the almost perfect uniformity in language some of its presentations seem to assume never existed. Keeping in mind Paul's *dictum* that there are as many dialects as individuals, we may say that there were certainly as many dialect-languages as peoples, and that a working uniformity is all that can be postulated of the tongue of peoples who, though originally one, tenanted a wide area, to the number of seven, and these too, the founders of languages that were subsequently quite distinct though cognate.

The further back, the greater the uniformity, though there was never identity. The habits of ex-nomads who had entered on the pastoral stage are not favourable to the existence of the packing in space that identity in language requires. A common language is a late product, the creation of the newspaper, fashion, and the schoolmaster.

As to the amount of sameness in the languages before dispersion, that is a matter of inference from observed *data.* They would all be inflectional in caste, and have in common much of the usual inflectional machinery.

The extent of the common vocabulary may be inferred from the stock of words which an examination of the common culture yields. In the case of men fighting to a large extent with nature an exuberant vocabulary is not to be thought of. A knowledge of the sound-system is to be gleaned from an examination of the sounds transmitted to us, *plus* an acquaintance with what is antecedent and subsequent in sound development.

Which is the most archaic of the Aryan languages? Which has preserved most of the common characteristics of the tongue of the original people? Well, we have not the *data* to answer the question, and its importance is not pressing. To come to a satisfactory decision we should require contemporaneous records of the languages compared. So far as vowels are concerned, Greek has been very conservative. There can be no doubt that Sanskrit in structure is more primitive-looking than the other languages. That it has a monopoly of archaic traits is as undoubtedly false. We may be sure these are pretty evenly distributed.

Attempts to reconstruct the original tongue from the evidence of language are badly lamed by the facts revealed in the theory we have tried to describe. When a word is missing from a language, no man can with certainty say whether it has disappeared, or whether it ever existed. On the old assumptions, the method was easy, if also rough and ready, for, starting with a common European language, if a word occurred in Sanskrit and in one European language, the others must have lost the heirloom.

If linguistic evidence alone is to be relied on, the more the languages in which a word occurs, the stronger the probability of its being original. Even then there are such things as accidental coincidences. There may also be coincidences that cannot be called accidental, for the very fact that there is such a thing as an Indo-European family of languages implies, as regards constituent peoples, an amount of sameness in mental equipment and tendency that ought to be reflected in the languages.

After these general remarks, it will be proper to discuss in order the divisions of the heading.

In the following pages I shall rely chiefly on Schrader. The first of the divisions is the culture of the Aryans. It is necessary to ascertain this with all possible aids, and use all the light so got, to clear up the moot-points of the question.

It will be convenient in writing on this division to handle matters in the order (1) of material arts and material advances, and (2) of social progress and intellectual conceptions.

In the first sub-division are to be handled facts that have a bearing on metals and weapons, on agriculture, on dwellings, on clothing, on food and drink, and on trade.

In the second is to be estimated the significance of names of kin, of ideas about the gods and the hereafter, and of the mode of computing time.

In quoting words I shall, as a rule, give the Sanskrit, Classical, and Teutonic equivalents where these exist. In this introduction I shall, when quoting German, usually give the New High German, and not the Old High German equivalent.

The discovery of metals simply meant salvation to man. With their aid he could face up to nature, and clear away the vast and rank growth of forest that fettered his movements, with their aid he could assert his superiority, and cope with the numerous and aggressive wild-beasts that made life bitter.

Being now, in proportion to his skill, better able to minister to his material wants, he would be drawn by the greater leisure at his disposal, and the hope of still further perfecting his tools, to work towards that point in weapon-making, in which increase of shapeliness means increase of utility. To the quest of shapeliness would be added the desire for grace, and to grace the rudiments of the artistic sense.

When those men who had become workers in metal in a small way, to supply most effectively their needs, heard of the more highly favoured mortals in other parts, to whom nature had gifted store of metals for use or ornament, they made shift to procure these.

These efforts were the beginning of trading. Metals would be sure to acquire a representative value, and the passage of the standard of value from *pecudes* into pence gave to trading the facility and expansiveness that its spread required.

Whatever may have been the metals known to the Ayrans, there is no general terms for metals among them, nor indeed among the separate peoples. The name of the metal first discovered was used as a general term. Μέταλλον, *metallum* are words of late development, derived, it is said, from a Semitic verb meaning 'to smithy,' an origin due to the fact that the Phœnicians erected smelting-houses beside the mines they dug.

There are also no terms common to the Indo-European languages denoting the smith or his craft, not even among the Indo-Iranians, where so much else is common, though such terms do exist in the separate dialects of families, unless some one can conjure something out of Sk. *áśman*, Gk. *ἄκμων*, *κάμῑνος*, L. *camīnus*, A.S. *hamor* (E. *hammer*). All originally meant stone, and seem (assuming them to be cognates) simply to prove that stone implements were used, not that smithying proper was practised by the original people.

Nor will a grouping of the facts connected with the smith-lore of the various peoples, plentiful as they are—for smiths and smithying played a large part in the imaginations of the northern peoples, now ranked with the divine now with the diabolic—enable us, in default of aid from language, to predicate original primitiveness of the smith or his craft. In spite of analogies between the stories of Hephaestus *κυλλοποδίων* and Wieland *hinkebein*, in spite of the appearance, both in south and north, of giants and dwarfs as workers in metal, in spite of the attribution to these workers in both areas of skill in the musical and the healing arts, one is constrained to deny common inherited elements, and partly owing to the very resemblances to suspect myth-borrowing with local colouring on the part of of the Teutons.

Of the individual metals, we may at once say that gold was not known to the Aryans in their joint state. One has only got to think on *χρυσός* and *aurum* to come to some such conclusion. With *χρυσός*, Goth. *gulþ*, A.S. *gold* used to be connected, but that cannot possibly be, even on the supposition that *χρυσός*=*χρυτι̯ος*. Sonant *l* is not represented in Greek by *ρῡ*. Beside *gulþ*, however, stands a

Slavonic cognate. χρυσός has been equated to Sk. *híranyam*, but, apart from other difficulties, there is not agreement in the suffix.

It is simpler to call χρυσός a loan word from the Semitic (cp. Hebrew *chārūz*). We know that the Phœnicians were the first to work the gold mines of Thrace, and that in the gray antiquity of the fifteenth century B.C. So that the use of χρυσός in the manufacture of personal and place names, always a mark of age, is sufficiently accounted for. The Semitic peoples were acquainted with gold, owing to their many points of contact with Egypt, a land rich in gold from time immemorial. Gold, too, was plentiful in Asia Minor and Arabia.

It is of course possible that the Greeks had gold before they knew the Phoenicians, and either renamed it, or adopted the foreign term to denote the foreign wrought gold they got from the Phoenicians. This term may afterwards have been generalised, and have displaced the native term.

The Latin *aurum* is a name probably drawn from the native vocabulary, and applied to gold on its introduction. The word is connected with *aurōra* and *ūrō*, and meant to begin with 'the gleaming thing.'

By a similar step in nomenclature, the Teutons got *gulþ* from the root *ghel* (*ghol*), seen in L. *helvus*, Gk. χολή, G. *gelb*. Here *gulþ*, to begin with, meant 'the yellow thing.'

The name *aurum* gives us not the slightest hint whence the Italians first got gold. The Teutons perhaps got their first gold from some of the outlying Turko-Tartaric peoples, who, in their original home near the Altai Mountains, had gold in plenty. The Indo-Iranians, of course, got gold in the sands of their own rivers. The Celtic word for gold comes from Latin, so does the Lithuanian word.

As far as the substance itself is concerned, it is difficult to believe that the Gauls, who, as Polybius says, had store of gold ornaments when they invaded Italy, had to wait till they came into contact with the Italians before they made its acquaintance.

In Norse we have beside *gull* 'gold in the mass,' belonging to common Teutonic, also *eyrir* from *aurum*, meaning coined gold.

What, then, are the facts? The Greek word is borrowed from Semitic, the Latin word stands by itself and fathers words in other languages, the Indo-Iranians have a word that is common only to the two peoples, Teut. *gulþ* has only a congener in Slavonic—facts all proving that gold was not known till after the dispersion.

Of silver, as of gold, we are entitled to say that it was not known to the Ayrans in their joint state. The Sanskrit word for silver, *rajatám*, in the Rigveda, has only the meaning of white, and the Zend word is only met with in the Avesta.

In the Iranian languages there is no agreement in words for this term, and surely if the metal had had a high antiquity in these languages, there should have been some common agreement, however isolated, in the names.

At first, on hearing Sk. *rajatám*, Gk. ἄργυρος, L. *argentum* (and an Armenian cognate), one may feel it safe to pronounce for original joint possession, but, inasmuch as the quality that has originated the name is so characteristic of the substance named, we have probably here the case of a name that would inevitably be coined by observant name-makers. It was probably from Armenia, a country in historical times rich in silver, that the Indo-Iranians got their knowledge of that metal, and the name its importers mentioned in their hearing would fall pat on their ears, and suggest their own. Any two observers would agree in calling silver the white metal.

The Greeks, too, probably got their knowledge of silver from Armenia, and the Italians theirs from Greece, or, it may be, from Spain, where the Phoenicians had long wrought silver mines. If from the former, we may suppose the Greek word to have taken on an Italian suffix.

In Italy, where nature has grudgingly gifted silver, the metal must have been introduced at an early date, for the name is present in more than one dialect.

The Celtic word for silver is possibly a term manufactured on the analogy of *argentum*, out of an adjective meaning white, seen, perhaps, in Argentoratum, the Celtic name of Strassburg.

The Teutons and the Slavs have a joint term (Goth. *silubr*, &c.). It will be remembered that the term for gold was also common to these two peoples.

Nothing definite is known of the etymology of the word silver. A connection with some adjective denoting whiteness would be the most satisfactory, but Kluge declares the word to be foreign to Indo-Europeans. Tacitus tells us the Germans imported silver, and perhaps, if we knew definitely whence, we might get an explanation of the name. Is it not possible that they got it with the name through the agency of some intervening tribe from the Greek traders on the Black Sea, who of course got it from Armenia?

Words for copper, one of the most widely distributed of metals, were quite generally diffused in early times. The Egyptians had their term, the Semites theirs, and the Turko-Tartaric peoples had also coined a name. One naturally expects to find a term appearing in the Indo-European domain that will prove a common knowledge of copper, and such a term is seen in the equation Sk. *áyas*, L. *aes*, Goth. *aiz*. Some difficulty has been met with in the attempt to make out copper to have been the original meaning in Sanskrit, but in Latin and Teutonic, it is pretty patent that the original meaning was copper.

If it be right to locate, with Schrader, the original home in the district of the Middle Volga, then the Aryans probably got their knowledge of copper by trading relations with the tribes of the Ural Mountains.

The content of the term for copper was enlarged. In Latin, as elsewhere, the term for copper was afterwards applied to bronze, and in Teutonic, it came to mean ore in general. In Sanskrit, the term was alienated from its original meaning altogether, and applied to iron, while new terms were got for copper, which have no connexion with other Indo-European words.

The fact that the metals accommodating themselves to *áyas* are neuter in Latin, in Sanskrit, and Gothic, supports the belief that copper was the earliest metal known, a belief that is also countenanced by the fact that many names of iron originally meant copper. Perhaps the new metals were described in terms that referred them to the old, *plus* a characteristic quality.

Greek is not amongst the languages that furnish an element to the above equation. Probably the term has disappeared, a form like *áyas*, having in Greek, where both *j* and *s* have been lost, small chance of survival.

This leads us to the Greek word for copper. χαλκός with the meanings of copper and bronze existed from of old in Greek. It is used extensively in nomenclature, exhibiting quite a contrast in this particular to σίδηρος, but, as far as origin is concerned, stands quite isolated in Indo-European.

In Latin, a precise term was got for copper in the expressions *aes cyprium*. This plainly means 'ore of Cyprus.' This term in the later *cuprum* furnished a word for copper all round—to Celtic, which originally had a word of its own, and to Teutonic.

Of bronze, the names for which have so many points of contact with the names for copper, the Indo-Europeans during their joint life probably knew nothing.

Wrought iron is a rather perishable substance, and so we are confined to language for information about its presence, early or late, among the metals known to the ancients.

The Semites have a family name for it, seen in the Hebrew *bar*(*e*)*zel*, a fact that argues an acquaintance made before the dispersion of the families of the stock. The Iranian peoples, too, have a common name.

In Sanskrit, as was remarked above, iron usurped possession of *áyas*, the term for copper.

Nothing definite can be made of the Greek term σίδηρος. That iron was known from an early date the literature proves. χαλκός certainly had a prior existence—witness its use in name-making, and in the coinage of a vocabulary of terms in smithery, *e.g.*, χαλκεύς established before the making of σιδηρεύς.

The difficulty we have in tracing σίδηρος does not exist in the case of the word for steel, viz., χάλυψ. We know that the name of this metal came, with the substance, from the Chalybes who lived somewhere near Pontus.

Latin also has a name for iron all to itself, unless *ferrum* can be cognated with the Hebrew *bar*(*e*)*zel*. This would make for a Punic or Phoenician origin of the term.

In the details of priestly ritual, bronze is often mentioned, but not iron. From this, it appears that an acquaintance with iron was made at a comparatively late period, and it is just possible that contact with Phoenician traders brought about this acquaintance. At least the iron of Elba ought to have drawn them to that part of Italy.

The Teutons got their name for iron from the Celts. Cæsar in the Gallic War describes a tribe of Gauls as possessors of ironworks. Perhaps the Gauls were taught smelting and smithying by the Romans. Gothic *eisarn*, placed beside Ir. *iarunn* and Welsh *haiarn*, betrays its origin, *-arn* not being a Teutonic suffix. *s* has dropped from the Celtic forms, which, by the bye, may perhaps be ranked with L. *aes*, &c.

The Letto-Slavonic word for iron has been equated with χαλκός.

The variety of different names possessed by members of the Indo-European family makes it clear that iron was not known in the primitive period. At the same time, the possession of common terms for iron by related peoples, now living far apart, postulates a high antiquity. Indeed, in some areas, there is evidence that steel must have been manufactured at an early time.

Lead and tin, unlike most of the other metals alternately assigned and denied to the Indo-European period, have never been adjudged of such antiquity. Of the following appellatives in familiar languages for the two metals — *μόλυβδος*, *plumbum*, *lēad*, *blei*; *κάσσιτερος*, *stannum*, *tin*, *zinn*—nothing definite is known save of *κάσσιτερος*. The Phoenicians were the earliest carriers of tin from Cornwall (*cf.* Cassiter Street in Bodmin) to the Mediterranean. We should then expect the word to be of Semitic origin, and the Assyrian *kāsazatirra* has been thought to be a likely parent.

Suggestions on the origin of the other words will be found in Schrader.

The Slavonic terms are obscure.

The Celtic term for lead, seen in Ir. *luaide*, is probably the parent of the Teutonic word. The Celts engaged in mining before the Teutons, and, as we have seen, gifted them the word for iron. They got from L. *stannum* their word for tin.

The notion that tin was an older metal than lead has been dispelled by Schliemann. Store of lead was found in the prehistoric towns of the Troad, tin in none.

Reviewing then the story told by the metals, we must conclude that the Europeans in their joint state knew none of the metals save copper.

Next, a word or two on weapons. The evidence got from a consideration of the names applied to these, tends but to strengthen the conclusion just announced. There is no good-going Indo-European equation of wide range for weapons. The Indo-Iranians have some common names for offensive weapons, but not for defensive armour. All round indeed, there is a special lack of connexion in the words for defensive armour.

Greek names for weapons are usually conspicuously different from Latin names, exhibiting, however, considerable agreement with Indo-Iranian names. This but increases the evidence already before us for a connexion between Greeks and Indo-Iranians.

In the names given to arms we find no positive proof that metal was used in their manufacture. From the fact that copper is the only metal that was certainly known to the Indo-Europeans, this is what we should expect. Most names, on being interrogated as to their origin, reveal simple materials. Take for instance in Greek—*δόρυ* (cp. *δρῦς*), *μελίη* 'ash and spear,' *τόξον* (cp. *taxus* 'yew'), *κυνέη* 'helmet,' orig. 'dog-skin cap'; in Latin—*pīlum*, the same word as *pīlum* 'pestle,' *scutum* (cp. *σκῦτος* 'hide'), *lōrīca* (cp. *lōra* 'leather thongs'); in Teutonic—A.S. *seax* 'short sword' (cp. L. *saxum*), A.S. *lind* 'shield,' made of linden wood.

Some of the equations that may guide us in drawing inferences as to primitive weapons are Sk. *asís*, L. *ensis*; L. *arcus*, Goth. *arhwazna* 'arrow'; Gk. *ἀξίνη*, L. *ascia*, Goth. *akwizi*, A.S. *eax*. An analysis of names, and the evidence of prehistoric remains permit us to refer to the joint period the knife-sword, the bow and arrow, the axe, the club, and the spear. Of course the sling belongs to it.

Perhaps the commonness of the material used accounts for the sparseness of cognates, and the limited range of the existing ones. The names for the weapons, having an obvious connexion with the material out of which they were made, would give place to new names got from new materials, materials, too, not known to the Aryans. Since one of the first uses of metals would be to provide effective arms, it follows that the equipments of the Aryans must have been of a rudimentary kind—weapons of bone, of horn, or, it may be, of copper, and defensive armour of wood, or of hide.

With the reservation that copper may have been used in weapon-making, the nomenclature of weapons proves that the Aryans lived in a premetallic age.

There is no lack of written opinion on the mode of life followed by individual Aryan peoples. Cæsar ascribes nomadic habits to the Germans (' neque licet longius anno remanere uno in loco'), and there is documentary evidence to the effect that the Slavs frequently changed their abodes, while, even to the Greeks, Thucydides imputes in early times nomadic instincts—*ἡ γῆ ἀεὶ τᾶς μεταβολὰς τῶν οἰκητόρων εἶχεν.*

If, at the dawn of history, this is the condition of the individual peoples, we are justified, making due allowance for the persistence of traditional habits, and the possible contemporaneous existence of features common to two modes of life, in concluding that the Aryans, when yet in the original home, were strongly infected with nomadic habits.

Not that the beginnings of agriculture were absent, there is evidence to the contrary, but, if salient characteristics determine definition, nomadic is the term that best expresses these.

Language, too, bears out the inferences to be drawn from recorded opinion and right reasoning. There is not among languages of the Aryan stock the general agreement in agricultural terms that exists in the case of purely cattle-terms, such as cow and sheep. On the other hand, there is strong agreement in the languages of the European members of the stock. Consequently, language forbids us to attribute agriculture, as an art, to the Aryans in the original home, but warrants us in asserting that the Europeans made common advances in said art.

Another consideration strengthens the ascription of nomadic habits to the original people. There can be no private property in land among nomadic peoples, and among peoples of historical times we find just what we should expect in legatees of nomadic customs. Among the Germans, Cæsar says 'privati ac separati agri nihil est.' This state of things exists to this day in Russia, and can be predicated of several ancient peoples.

Note, too, that to assume common advances in agriculture on the part of the Europeans is not to assume a European period characterised by identity of language and manners, nor even to assume an acquaintance with metals. It is perfectly possible to have a contiguity that permits common advances in culture, and strong divergences in language, and it is not at all necessary to make acquaintance with metals the measure of acquaintance with agriculture. Many terms for agricultural implements or portions of them can be traced back to non-metallic materials, *e.g.*, Goth. *hōha* 'plough' is equated with Sk. *śākhā* 'branch.' Numerous names prove that wood stiffened, if required, with stone answered every necessary purpose of agriculture. But there is no need to prove that agriculture may flourish with very primitive implements.

It will be well now to mention some of the resemblances that warrant us in speaking of joint advances in agriculture on the part of Europeans.

One of the few equations common to the Aryans in this connexion is Sk. *yávas* 'barley,' Gk. ζειά 'spelt,' &c., but we really do not know what is exactly meant by these terms, and very possibly they do not denote a cultivated product. There are one or two more terms arguing common knowledge on the part of the Aryans.

Compare this poverty with the wealth of equations to prove European community:—first in general terms—Gk. ἀγρός, L. *ager*, A.S. *æcer;* Gk. ἀρόω, L. *arō*, Goth. *arjan*, E. *ear*, &c.; L. *serō*, Goth. *saian*, A.S. *sāwan*, &c.; L. *molō*, Goth. *malan*, E. *meal*, &c.; Gk. ἅρπη 'sickle,' L. *sarpō* 'prune,' &c.; L. *porca* 'ridge between two furrows,' A.S. *furh*, G. *furche;* Gk. ἄχνη 'chaff,' L. *acus aceris*, Goth. *ahana*, E. *awn;* next in products of the soil—L. *grānum*, Goth. *kaúrn*, A.S. *corn*, &c.; L. *hordeum* 'barley,' A.S. *gerst*, G. *gerste*, perhaps Gk. ϰρīθή (for χερσδη); L. *far*, A.S. *bęre*, &c.; Gk. λίνον, L. *līnum*, A.S. *līn*, &c.; L. *faba*, with Slavonic cognate; Gk. ϰρόμυον 'onion,' A.S. *hramse*, E. *ramsons*, &c.; and Gk. μήϰων 'poppy,' G. *mohn*, E. *maw-seed.*

In addition to the agreement just exhibited between general terms, and the terms for such products as barley, flax, beans, onions, an agreement has also been established between the various terms for wheat, millet, peas.

Such products, then, it would seem, were reared by the European section of the family.

These resemblances give sufficient ground for the assertion that agricultural terms are common only to the European branch of the Aryan family.

It should also be said that the Asiatic branch has some agricultural terms common to its members, but our means of information about these is very limited. After the dispersion, the European branch was forced by stress of circumstances to begin agriculture. In their wanderings, accepting Schrader's theory, they had passed out of the steppe country, favourable to nomad life, and got amongst forests that prevented them following the former free and easy life, and constrained them to take to tillage.

It is curious that an examination of Semitic and Egyptian culture, under this head, yields as a result almost the same plants as we have just mentioned. Nothing definite is known about the original *habitat* of these plants, or the way in which they may have been distributed by trading.

The nomadic life attributed to the Aryans is also shadowed forth in the correspondence of terms that have to do with waggon-building.

The European nomad had to make his own camel, the waggon was his ship of the desert. This is a fact that could be got at from written records. ‘Vagae domus,’ ‘domus plaustris impositæ’ are expressions that argue a knowledge of this vehicular transit on the part of their framers.

To return to the correspondences, we have for wheel—Sk. *ráthas* ‘waggon,’ L. *rota*, G. *rad*, &c., and Sk. *cakrás*, Gk.

κύκλος, A.S. *hwēol*, &c.; for axle—Sk. *ákshas*, Gk. ἄξων, L. *axis*, A.S. *eax*, G. *achse*, &c.; for yoke—Sk. *yugám*, Gk. ζυγόν, L. *jugum*, A.S. *geoc*, &c.

Nothing but a common use and wont in the art of waggon-building can account for these correspondences. The limitations that want of tools and other drawbacks would impose are also borne witness to in the terminology. There are no common terms for spoke and felloe, a fact proving that the wheels were made of one piece.

Even nomads, although they were not to remain longer than a year in one place, would be led to construct other shelters than their waggons. A life on wheels, in a bare country, during rigorous cold, would sharpen their inventiveness. Tacitus tells us that the Teutons had underground dwellings, and Xenophon in the Anabasis particularises some of the features of similar κατάγειοι οἴκιαι among the Armenians, viz., a vertical descent by ladder for human beings, and a side descent by sloping tunnel for cattle.

But language gives evidence of other and more ambitious shelters. House-, or at anyrate, hut-building is proved by the following equations:—Sk. *damás*, Gk. δόμος, L. *domus*, Goth. *timrja* 'builder,' &c.; Sk. *dvār*, Gk. θύρα L. *foris*, A.S. *duru*, &c.

Note also Gk. στέγος, L. *tectum*, Sk. *sthag* 'cover,' &c.

It is the materials used in building that prove hut to be the better term. Records and language alike prove these to be other than bricks and lime. To make use of the latter, G. *wand* 'wall' is equated with Goth. *wandus* 'twig,' a connexion that at once suggests wickerwork.

ὀροφή 'roof' and ὔροφος 'rush' suggest the same material. The equating of τεῖχος (rt. *dheigh*) to *fingō*, *figulus* 'potter,' at once suggests clay.

Again, in Teutonic, most terms in stone building are foreign, taken from the Latin, e.g., G. *mauer* from *murus*, G. *ziegel* from *tegula*, &c.

We can not only tell the materials, but also guess the shape of the Aryan dwelling. The round urns in the cemetery of Alba Longa are known to be representations of the houses of the living; the houses of the Germans figured on the columns of Aurelius are round; and to regard this as a traditional shape of high antiquity is perhaps not to be unduly rash.

The Aryan dwelling would seem then to have been a circular structure, made of such materials as wood, clay, and plaited twigs, and perhaps sunk into the earth for protection. A further proof of its rudimentary nature is got from the fact that windows seem to have been a later addition, the words for window not exhibiting correspondence.

Possibly the headmen of the tribe occupied more pretentious buildings constructed on similar lines.

To nomads who lived by cattle-rearing the materials for clothing were at hand. Hides would naturally be resorted to. That the Aryans had reached that point in civilization in which the investiture of the person with a covering has become a detail of living is rendered probable by these cognates, viz., Sk. *vas* 'clothe,' Gk. ἕννῡμι, L. *vestiō*, A.S. *węrian*, Goth. *wasjan*.

That the first clothing was hides, language bears evidence, e.g., βαίτη 'a coat of skins' corresponds to Goth. *paida* (E. *pea jacket*); σκευή 'dress' and σκῦτος 'skin' have the same root; σισύρα 'a rough outer garment' (orig. of pigskin) and σῦς are probably connected.

But the Aryans were more deeply versed in the philosophy of clothes than to mark time at skins.

There are proofs that they knew how to manipulate their material. The art of making felt seems to have been known to the European section. For this compare Gk. πῖλος, L. *pileus*, Ger. *filz*.

A general term for plaiting is well distributed, e.g., Sk. *praśnas* basket, Gk. πλέκω, L. *plectō*, G. *flechten*, &c.

There are terms, too, for weaving and spinning, though the terms for the latter have not freed themselves from the meaning of plait.

For weaving take Sk. *vā*, Gk. ὑφαίνω, A.S. *wefan*, G. *weben*. Here, too, consider the following correspondences, establishing the existence of the art, and the position occupied at its practice, furnished by the root *stā* 'stand,' viz., Sk. *sthávis* weaver, Gk. ἱστός 'loom,' and στήμων 'warp,' L. *stāmen* 'warp,' Goth. *stōma* 'stuff.'

For spinning we have Gk. νέω, L. *neō*, Goth. *nēthla* 'needle,' G. *nähen*. It seems we cannot compare here any words that argue original *sn*, such as Goth. *snōrjō* 'basket,' for that combination, had it been true for the above, would have survived in Gothic.

That wool was a material known to the original people is obvious enough from this equation, viz., Sk. *ūrṇā*, L. *lāna*, Gk. οὖλος (Fολνος), L. *vellus*, Goth. *wulla*, &c.

It is also very possible that flax was used in these arts. We saw above that a term runs through all Indo-European languages, and Homer speaks of the Parcae spinning flax.

To sum up what can be made out anent the clothing of the Aryans, it seems probable that originally a stretch of flaxen or woollen material was thrown over the left shoulder, as the primitive skin was, that it was then brought round the back and front and fastened to the left shoulder by the fibula, somewhat after the fashion of the Roman toga.

A tunic—Gk. χιτών, L. *tunica* (*ctunica*), both from the Semitic—was not originally worn.

Sewing of some sort (Sk. *syū-*, Gk. κασσύω, L. *suō*, Goth. *siūjan*, &c.) was practised.

The Aryans, as was natural in the possessors of flocks and herds, were flesh-eaters, and further, possessed some knowledge of cookery. A term for raw, red meat runs pretty well through, viz., Sk. *kravís* 'raw meat,' Gk. κρέας, A.S. *hrēaw* 'raw,' &c. A knowledge of cookery is argued by Sk. *pac* 'cook,' Gk. πέσσω, L. *coquō*, &c.

The original meaning of these is simply 'roast.' Not that flesh was always roasted, for doubtless the Aryans, as some still do, often cooked their food by eating it. Wild fruits were also eaten, and of course cereals, when their culture was introduced, formed a staple article of diet.

Doubtless the Aryans drank milk, although the Sk. *duh* 'milk' is different from Gk. ἀμέλγω, L. *mulgeō*, &c., and a common term for milk is only to be found among peoples whose territories presumably marched on one another, viz., Greeks and Latins (γάλα, *lac*), Teutons and Celts (Goth.

miluks, Ir. *melg*). One equation, however, argues community under the head milk, viz., Sk. *sā́ras* 'cream,' Gk. ὄρος 'whey,' L. *serum* 'whey.'

It would be too much however to argue that the original people could make butter and cheese. These demand processes that do not seem to suit the habits of nomads or ex-nomads.

Mead is the intoxicant for which we have an Indo-European equation—Sk. *mádhu* 'sweetness, honey, mead,' Gk. μέθυ 'wine,' A.S. *medu*, G. *meth*, &c.

These names prove that honey must have been an ingredient, probably, Schrader thinks, procured by trading, for the country to be selected as the most probable home of the Aryans is not wooded, and common terms for bee and wax, together with a definite term for honey, are only European.

Schrader seems rather to underestimate the importance of the general diffusion of words for mead. His choice of the steppe region for the original home has led him to do this.

Wine was of course not known to the Aryans. The Teutonic, Slavonic, and Celtic terms are borrowed from *vinum*. *Vinum* and οἶνος are, however, mutually independent formations, probably from the root *vi* 'to twine,' and date from a time when the Italians and Greeks lived in the north of the Balkan peninsula.

It is a curious and suggestive fact that most of the peoples who have sojourned in or near this part of Europe, have similar terms for wine, among the rest the Albanians and the Armenians. Mention has already been made of the tradition that identified the Armenians with the Phrygians, who are called ἄποικοι τῶν Θρακῶν. Further, χάλις, a term for unmixed wine, is correlated by Schrader with an inferred Sabine *fali* seen in *ager Falernus.*

It is quite probable that the Aryans had made a beginning in trade. Trading is developed bartering, and for this practice the Indo-European vocabulary argues volume and precision enough to entitle it to the name trade. Certain terms, varying, as is natural in terms for bartering, between the meanings of buying and selling, have wide distribution, viz., Sk. *vasnám* 'price,' Gk. ὦνος 'price,' L. *vēnum* 'sale,' &c.

There is a common root for measure, viz., Sk. *mā* 'measure,' Gk. μέτρον (μεδτρον), L. *modius* 'corn-measure,' Goth. *mitan*, A.S. *metan.*

If we add to this that standards for measurement are found in the body at rest or in motion, e.g., foot, cubit, pace, &c., we see that all the conditions for trading are present.

There are considerations which seem to show that this was not always confined to tribal areas, even in the joint period. No doubt strangers were at first looked on as enemies; the fact that the words for stranger and enemy coincide proves this. Goth. *gasts* is cognate with *hostis*, and ξέν(*F*)ος (*ghsenu̯os*, the -ενFο- is a nominal suffix) has with Brugmann's approval been correlated with these.

But these words at a very early period took on a softer meaning, and among the Indians, Greeks, and Italians, precepts counselling hospitality are of very old date. The suggestion that this altered attitude towards strangers was brought about by trading relations, that strangers passed from providers of goods into *protégés* of the gods, that abstention from hostile acts was in the beginning simply on each side an arrangement for mutual benefit, finds some support in a ceremony of guest-friendship, viz., the exchange of tokens (σύμβολα, *tesserae*), a survival of the exchange of wares.

It would then follow that trade between strangers was older than hospitality, old enough perhaps to be predicated of the Aryans in the joint period.

Inasmuch as the Aryans were unacquainted with the sea —a common term first occurs among the Europeans, viz., L. *mare*, Ir. *muir*, Goth. *marei*, E. *mere*—sea-going trade did not exist.

The series of words—Gk. ἅλς, L. *sāl*, Goth. *salt*—originally meant salt, and even if they originally meant sea, we are still in Europe, for Sk. *sáras* ‘lake, pool’ can hardly prove anything about sea.

The trade that flourished was overland or along the banks of rivers. There is nothing common in the way of nautical terminology to invalidate this, it is only terms for rowing and boat that are common, e.g., Sk. *arítras* ‘rudder,’ Gk. ἐρετμόν ‘oar,’ L. *rēmus*, A.S. *rōðer*, &c., and Sk. *nāús*, Gk. ναῦς, G. *naue*.

It is assumed that the latter word denoted the hollowed-out trunk of a tree. But could such trunks be readily got, if the original home is placed with Schrader in the woodless steppe country.

In the European languages, mast (L. *mālus*, A.S. *mæst*, rt. *mazdos*) has a common term, but even in these, there are great differences in the nomenclature of the other parts of a ship.

A fair idea of the material culture of the Aryans may be got from an examination of the culture disclosed to us in the disinterred lake-dwellings of Switzerland. The facts brought to light in connexion with these seem to prove that the lake-dwellers were just at that stage of culture that one would be led to predicate of the Aryans.

To complete an account of Indo-European culture it still remains to put down something about social progress and intellectual conceptions.

Under this head let us note first the names of kin that are common to the Aryans. Their extension, although I do not put down all the languages in which they occur, will, I daresay, be fairly apparent. They are these :—*father*, *mother*, *son*, *daughter*, *brother*, *sister*, *father's brother*, *father-in-law*, *mother-in-law*, *daughter-in-law*, *husband's brother*, *husband's brothers' wives*, *grandson* (*nephew*) (Sk. *pitár-*, *mātár*, *sunús*, *duhitár-*, *bhrā́tar-*, *svásār-*, *pitṛvyas*, *śváśuras*, *śvaśrū́s*, *snushā́*, *dēvár-*, *yā́taras*, *nápāt-*; Gk. πατήρ, μήτηρ, υἱός, θυγάτηρ, φρᾱ́τηρ, ——, πάτρως, ἑκυρός, ἑκυρά, νυός, δαήρ, εἰνατέρες, ἀνεψιός; L. *pater*, *māter*, ——, ——, *frāter*, *soror*, *patruus*, *socer*, *socrus*, *nurus*, *lēvir*, *janitrīces*, *nepōs* ; A.S. *fæder*, *mōdor*, *sunu*, *dohtor*, *brōðor*, *sweostor*, *fædera* (G. *vetter* orig. 'uncle'), *swēor* (G. *schwäher*), *sweger* (G. *schwieger*), *snoru* (G. *schnur*), *tācor* (O.H.G. *zeihhur*), ——, *nefa*).

There are double sets of words for father and mother running through the Indo-European languages, the above, and a set of imitative formations, e.g., Goth. *atta* 'father' (*áiþei* 'mother'), cp. Gk. ἄττα, L. *atta*, Sk. *attā* 'mother.'

It will be noticed that the Indo-European terms for son and daughter are missing in Latin, and are supplied by *fīlius fīlia*, connected either with *fellō* 'suck,' or φῦλον 'tribe.'

In Greek, φρᾱ́τηρ has of course another meaning than brother, and there also the word for sister is distinctive, but the word ἔορες 'cousins,' quoted in Hesychius' Lexicon, seems plausibly cognated by Schrader with the other Indo-European terms. He suggests that the word originally meant 'sisters,' then 'sisters' children,' then 'children of brothers and sisters,' comparing the Latin *consobrīnī*, which originally meant 'a pair of sisters.'

The word for father's brother, as seen above, is very well distributed, the word for mother's brother is not an Indo-European one. A term for this relative is seen in L. *avunculus*, A.S. *ēam* (cp. *Eames*, proper name), G. *oheim*. *Avunculus* 'little grandfather' is, I suppose, a hypocoristic term from *avus*.

Perhaps it is worth noticing that it is in European that the *nepōs*-row has taken on the meaning of nephew.

There is no Indo-European term for grandfather or grandmother.

It seems well to notice here a fresh proof of the affinity between Teutonic and Slavonic, exhibited by the presence in them of a common term for grandson, seen in G. *enkel* (dimin. of *ahn*). There is no Indo-European term for son-in-law. Correspondences however are met with in various languages, e.g., in Teutonic——A.S. *āðum*, G. *eidam*.

A glance at the terms for *affīnēs* in the above list, proves that it is only the husband's side of the house for which a terminology has been provided. There is not an Indo-European term to denote a relative who has become such in virtue of relationship to a wife. For son-in-law, there is no common term to suggest that the wife's parents claimed kindred with their daughter's husband. The wife seems to have merged her individuality and her family in those of her husband. This leads to a conclusion quite opposed to the theory that the woman was the stable factor in calculation about parentage. If circumstances once made relationship in the female line the surest way of allocating a place to a child in a clan, language seems to prove that these circumstances either never existed in the case of the Aryans, or had passed away before language was developed enough to record them. Westermarck in a recent work explains primitive life in general on the patriarchal theory.

The Aryan family, then, was one in which relationship through male connexion was the title to membership. In the Aryan family—can we use the term family if this does not exist—there was paternal supervision and authority. Sonship was a reality, very much the reality that it was in early Roman times.

It is true also that the common terms for relatives on the wife's side, possessed by certain groups of languages, argues a very early acknowledgment of such relationships.

Wives were procured, in the very early days of Aryan life, when the various wandering households observed a semi-hostile attitude to each other, by capture. The existence among the Aryans of this generally prevalent practice is also indicated by the absence of terms implying the recognition of affinity on the wife's side. Afterwards when milder manners obtained, purchase was substituted.

There can be little doubt that the right of the husband—Sk. *pátis*, Gk. *πόσις*, L. *potis* 'able,' Goth. (*bruþ*)*faþs* 'bridegroom'—over his spouse as wife or as widow was that of the owner of a chattel over its disposition. Suttee is an Aryan survival.

As a political unit family meant an aggregate of several households controlled by a *paterfamilias.* In the progress to political development, the next complex to family is that of brotherhood. This meant an association of families having a common ancestor, each of which had hived off in succession from an overgrown family, to find virgin pastures and procure more space. The term for this brotherhood in Greek is *φρατρία*, in Latin, *gens.* To this day the *bratsvo* of Herzegovina supplies an example of what we may suppose the Aryan brotherhood to have been.

Before the disruption, the constituents of the Aryan race, each a potential nation, may be supposed to have developed tribal organisation and to have possessed tribal solidarity. That they had arrived at such a concept as a name for the united race is unlikely.

Did the Aryans have a conception of the divine, and if they did, what were their divinities? To answer correctly the first question, one ought to discriminate carefully terms, the religious import of which is an after growth of separate national life, and terms that may be supposed to have carried down their religious import from primeval times. There are really no words that we can confidently place in the latter class.

In the primeval period the consciousness of the divine must have been rudimentary, and many roots would afterwards by the workings of anthropomorphism acquire a religious meaning. Of these roots, when the need for a religious vocabulary arose, some areas would use one, others, another. This consideration may account for the dearth of common terms expressing the divine. If, however, the objects that are known to have been subsequently worshipped by individual peoples have common names, it is just possible that these latter in the primeval period excited the reverence of the joint people. Such common names there are:—dawn (Sk. *ushás*, Gk. ἠώς (see page 115), L. *aurōra*, A.S. *ēast*, *Eastre* 'spring-goddess'); sky (Sk. *dyāús*, Gk. Ζεύς, L. *Jūpiter*, A.S. *Tīw*); sun (Sk. *sū́ryas*, Gk. ἠέλιος (σᾱ Ϝελιος) (see page 115), L. *sōl*, Goth. *sauil*); thunder (Sk. *tanyatús*, L. *tonitru*, A.S. *ðunor*, G. *donner*); fire (Sk. *agnís*, L. *īgnis*); wind (Sk. *vā́tas*, Gk. ἀήτης, L. *ventus*, A.S. *wind*); cloud (Sk. *nábhas*, Gk. νέφος, L. *nebula*, A.S. *nifol*, G. *nebel*).

That these objects were deified in one quarter or another is matter of common knowledge.

The only way to arrive at an opinion about Aryan notions of the afterworld is to examine the beliefs of separate peoples and more or less plausibly project them into the primeval period. In this connexion it is important to note that ancestor-worship, an injunction of Indian religion, and a national trait of the Romans, has no existence among the Greeks of the Homeric age.

The Aryan mode of computing time has to be attended to in an account of Aryan culture. Should we be able to learn the number of seasons in the year of the primeval people, and discover details regarding the characteristics of these seasons, we shall, with the knowledge of climate so got, be much better able to select a suitable spot for the original home.

Beginning with terms for seasons, we find that common names for winter and allied notions are very widely distributed, e.g., Sk. *hēmantás* 'winter,' *himás* 'cold, winter,' Gk. *χειμών*, *χιών*, *χίμαιρα* 'goat' ('yearling'), L. *hiems*, Sc. *gimmer* (cp. E. *wether*, Gk. ἔτος, L. *vetus*).

There is also a series of allied terms for snow :—Gk. *νίφα*, L. *nix*, A.S. *snāw*, &c., including a Zend cognate.

There are three groups of words for the portion of the year that is set over against the wintry portion, viz., Sk. *vasantás*, Gk. ἔαρ, L. *vēr*, &c. ; Zend *yāre* 'year,' Gk. ὥρα, Goth. *jēr* ; Sk. *sámā* 'half-year, year,' A.S. *sumor*, &c. I ought to mention here that there are difficulties in connecting ἔαρ and *vēr* with *vasantás* (rt. *ves*, which rather connotes the notion of waning than of growing light (cp. *vesper*, &c.)), e.g., Gk. εσα ought to become η. The best account of the word I have seen is that given by F. W. Walker in the *Classical Review*, vol. v., p. 10. He derives both from a root *vē* 'blow,' making ἔαρ = *ϜηϜαρ(u̯r̥)*, and *vēr* = *vēver*. Of course this disconnects with Sanskrit.

These terms do not represent divisions of the non-wintry part of the year, but are different names for the same thing. Their meaning fluctuates in different areas, and even in the same area there is evidence of instability. Perhaps *sámā* originally 'half-year' was a sort of unattached synonym for the non-wintry portion of the year. The *vasantás* series seems to have properly denoted the commencement of the hot season, for they are not used as names for the whole year like the others.

To say nothing of the twin powers of the year storied in mythology, there is a dualism present in the nomenclature, e.g., *summer* and *winter*, *vasantás* and *hēmantás*, with similar suffixes, that impels us to assume an original division into two, and only two parts.

After progress had been made in the cultivation of cereals, it is likely that some designation would be set apart for harvest-time, and probably a term common to the European group arose at this stage, viz., L. *annus* (*asnos*), cp. *annōna*, Goth. *asans* 'harvest' (E. *earn*).

When the peoples had separated and reached other localities, names for different periods of the warm part of the year were coined, and existing terms were attached to definite periods.

The existence of correlates like Sk. *vatsás* 'calf', L. *vetus* 'full of years,' *vitulus* 'calf' ('yearling'), A.S. *weðer* 'wether,' seems to prove that the Aryans were able to conceive of the year as a whole.

There was also a roundabout way of expressing the idea of year by means of an enumeration of its various parts, and in many of the Indo-European languages a fashion grew up of substituting a part for the whole, e.g., winter for year.

A word for month has wide distribution—Sk. *mā́s*, Gk. μήν, L. *mēnsis*, Goth. *mēnōþs*, &c.

There was also a word for moon belonging to the series, seen in Goth. *mēna*, but in many quarters it was replaced by words from fitting roots.

When the moon had furnished a unit of measurement, observation would teach that some twelve of these units or months elapsed between the first appearance of the cold season and its re-appearance, and so long as there only existed a rough division of the year into a hot season and a cold season, the discrepancy between the lunar year and the natural year would not obtrude itself.

A word for night runs right through the Indo-European languages:—Sk. *náktis*, Gk. νύξ, L. *nox*, Goth. *nahts*.

A comparison of the words for summer and day does not reveal the community that a comparison of the words for winter and night does.

That the Aryans measured the month by nights, just as they measured the year by lunar months, is evidenced by facts in language and by the reports of observers. Language proves that winter bulked very largely in the lives of the Aryans, and so must night, winter's ally and exponent. To this day in English we use the terms fortnight and sennight.

In words for evening differences appear. A term for evening seen in Gk. ἑσπέρα, L. *vesper*, &c., has some distribution. The term seen in A.S. *æfen*, G. *abend* is confined to Teutonic and is quite obscure.

Before presenting any conclusion regarding the original home of the Aryans it will be proper and helpful to devote a page or two to record some of the results that have been arrived at anent the animals, the birds, and the trees of the primeval epoch.

The animals domesticated by the Aryans were the cow (Sk. *gāús*, Gk. βοῦς, L. *bōs*, A.S. *cū*, &c.), the sheep (Sk. *ávis*, Gk. οἴς, L. *ovis*, A.S. *ēowu*, &c.), the dog (Sk. *śván-*, Gk. κύων, L. *canis*, A.S. *hund*, &c.). A word for goat, seen in Sk. *ajás*, Gk. αἴξ, &c., has a measure of extension.

There is even a common collective name for cattle (Sk. *páśus*, from root *paś*, 'fasten, tether,' L. *pecus*, Goth. *faíhu*, G. *vieh*.

The pig was probably not domesticated when the peoples were still united. It must, however, have been known, for there is a common name (Sk. *sū-kará-*, Gk. ὗς, L. *sūs*, A.S. *sū*, &c.), Pig-rearing is not mentioned in early Indian literature, and implies a more settled life than can be predicated of the original people.

The horse, probably in a half-wild state, was known, as is evidenced by the names (Sk. *áśvas*, Gk. ἵππος, L. *equus*, A.S. *eoh*, &c.), but presumably was not used as a beast of burden. Words for riding differ in the various languages. From this one feels disposed to conclude that riding on horseback was not an established practice.

The ass, the mule, and the camel were not known during the joint period. The mule is thought to have been first bred in Pontus, the ass and the camel, certainly domesticated at a very early period by the Asiatic branch, came originally from Eastern deserts and steppes.

The absence of common names for ass and camel does not suggest an Asiatic site for the original home.

Gk. ὄνος and L. *asinus* are independent borrowings. G. Meyer (Brugmann's 'Indogermanische Forschungen,' vol. i., p. 319) says that the animal and the name were probably got from Asia Minor through Thracian-Illyrian intervention.

To the same region he traces back *mūlus* (*muslo*, *lo* dimin. suffix), and making capital out of a remark of Anacreon's to the effect that the Mysians first bred mules, dubs the word an appellative ('the Mysian beast') turned proper name.

Other animals named by the Aryans are these:—wolf (Sk. *vṛ́kas*, Gk. λύκος, L. *lupus*, Goth. *wulfs*, &c.); bear (Sk. *ṛ́kshas*, Gk. ἄρκτος, L. *ursus*, &c.); otter (Sk. *udrás*, Gk. ὕδρος, G. *otter*, &c.); mouse (Sk. *mū́sh*, Gk. μῦς, L. *mūs*, A.S. *mūs*, &c.) ; hare (Sk. *śaśás*, A.S. *hara*, G. *hase*, &c.) ; beaver (Sk. *babhrús*, 'brown,' L. *fiber*, A.S. *beofor*, G. *biber*) ; polecat (Sk. *kaśīkā́*, and Lithuanian cognate).

The jackal belongs to the Asiatics.

To the Europeans belong the hedgehog (Gk. ἐχῖνος, A.S. *īl*, G. *igel*, &c.) ; the lynx (Gk. λύγξ, G. *luchs*, &c.) ; the weasel (Gk. αἰέλουρος (ἀϝισελ-), A.S. *wesle*, G. *wiesel*) ; the hart (1. Gk. ἔλαφος, with Celtic, Slavonic, Lithuanian, and Armenian cognates, and 2. Gk. κεραός, 'horned,' L. *cervus*, A.S. *heorot*, G. *hirsch* (*t* als Ableitung bei Tiernamen im Germ.) Kluge) ; and the boar (L. *aper*, A.S. *eofor*, G. *eber*), &c.

The words for fox are difficult—ἀλώπηξ, said by Meyer to be a loan-word from a dialect of Asia Minor (with an Armenian cognate) ; *vulpes*, quoted by Wharton as dialectic and belonging to the *lupus*-row. For the Gothic *faúhō* a cognate seems to exist in the Laconian φοῦα, so that the animal is probably European.

The tiger, the lion, the elephant, and the ape have not common names and were not known to the united people. It is well, however, to remember that certain animals may not have had names specialised for them, and may have been merged in the general term 'wild beasts.'

The name for tiger is of Iranian origin ; as to the names for lion, usually considered borrowings from the Greek, it is just possible that they may be to some extent independent formations. At any rate, it is difficult, on the hypothesis of borrowing, to account for the various forms of the name, and the animal was not unknown in Europe, for we read of lions in Thrace.

In putting down common names for birds, one cannot but suspect independent, imitative origin. To this suspicion are exposed the following:—owl (Sk. *úlūkas*, L. *ulula*, G. *eule*); cuckoo (Sk. *kōkilás*, Gk. κόκκυξ, L. *cucūlus*, &c.); hen (Sk. *kr̥kavā́kus*, Gk. κέρκος, &c.); jay (Sk. *kikidīvís*, Gk. κίσσα G. *häher*); moorfowl (Sk. *tittirís*, Gk. τετράων, L. *tetrao*, &c.

Outside these words of imitative origin there are few common names. Such are quail (Sk. *vartakas*, Gk. ὄρτυξ); goose (Sk. *haṅsás*, Gk. χήν, L. (*h*)*ānser*, A.S. *gōs*, *gandra*, G. *gans*); duck (Sk. *ātís*, Gk. νῆσσα, L. *anās*, A.S., *æned*, G. *ente*).

Schrader also quotes as cognates Sk. *śyēnás* 'eagle, falcon, hawk,' and Gk. ἰκτῖνος 'kite.'

To the European languages belong these:—eagle (Gk. ὄρνις, A.S. *earn*, Goth. *ara*, G. *aar*, &c.); crane (Gk. γέρανος, L. *grūs*, A.S. *cran*, &c.); wagtail (Gk. κίλλουρος, with Lithuanian cognate); throstle (L. *turdēla*, A.S. *ðrostle*, G. *drossel*, &c.); starling (L. *sturnus*, A.S. *stearn*, G. *star*); woodpecker (L. *pīcus*, G. *specht*). If the last names can be brought into line with Sk. *pikas* 'cuckoo,' they may be added to the group of common names.

There are one or two European names of obviously imitative origin. These are crow (Gk. κόραξ, κορώνη, L. *corvus*, *cornīx*); hoopoe (Gk. ἔποψ, L. *upupa*): owl (Gk. βύας, L. *būbō*, but there is an Armenian cognate).

There were no tame birds in the primeval period. The duck, the hen, and the goose were all wild.

The only common word relating to fish in Indo-European is the word for eel (Gk. ἔγχελυς, L. *anguilla*, &c.). Even these are supposed to have been coined by each people separately from the word for snake, seen in L. *anguis* (A.S.

* yce*, G. *unke*). Now L. *anguis* and *anguilla* were popularly connected with each other, but the meaning 'eel' is constant in ἔγχελυς. Can this last be connected with Sk. *áhis*, Gk. ἔχις?

There are not many tree-names common to the European and Asiatic branches. Such are birch (Sk. *bhū́rjas*, L. *frāxinus*, A.S. *beorc*, G. *birke*, &c); willow (Gk. ἰτέα, L. *vītex*, A.S. *wīðig*, G. *weide*, &c., with a Zend cognate).

The names that in various areas denote tree, pine, oak, are these:—Sk. *drús* 'tree,' *dā́ru* 'wood,' Gk. δρῦς 'oak,' Maced. δάρυλλος 'oak,' L. *larix* (*darix*) 'larch,' Goth. *triu* 'tree,' G. *zirbel* 'stone-pine.' The original meaning, Schrader thinks, was tree (see later on).

There is store of common tree-names in European:—oak, &c. (1. Gk. αἰγίλωψ 'species of oak,' αἴγειρος 'poplar,' αἰγανέη 'spear,' L. *aesculus* (*aegsculus*), A.S. *āc*, G. *eiche*, and 2. L. *quercus*, A.S. *furh* 'fir,' G. *föhre*); beech (Gk. φηγός 'oak,' L. *fāgus*, A.S. *bōc*, G. *buche*); pine (1. Gk. πευκή, G. *fichte* (O.H.G. *fiuhta*), &c., and 2. Gk. πίτυς, L. *pīnus* for *pītnus* (taken along with Sk. *pī́tu-dārus* these names have a claim to be common)); sallow (Gk ἑλίκη, L. *salix*, A.S. *ealh*, G. *sahl*(*weide*), &c.; hazel (L. *corylus*, A.S. *hæsel*, G. *hasel*, &c.); elm (L. *ulmus*, A.S. *elm*, &c., perhaps Sk. *áraṇyam* 'wood' (from *arṃnya-*)); alder (L. *alnus* (*alsnus*), A.S. *alr*, G. *erle*, &c., perhaps Sk. *ṛshṭís* 'spear'); maple (Gk. ἄκαστος, L. *acer*, G. *ahorn*); ash (A.S. *æsc*, G. *esche*, &c.); aspen (A.S. *æsp*, G. *aspe*, &c.); yew (A.S. *īw* (*ēow*), G. *eibe* (O.H.G. *īwa*), &c., from this comes Fr. *if*, through Mid. Lat. *īvus*).

The Greek correlate for beech has assumed the meaning 'oak,' and in Slavonic there is no native term for beech. The Greeks must have passed from a country with beeches to one without. This tree, in fact, does not grow south of a line drawn from the Ambracian to the Malian Gulf. The original home of the Slavs was outside of the eastern boundary of the beech-zone, viz., a line drawn from Königsberg to the Crimea.

From the limited number of agreements in tree-names one is entitled, according to Schrader, to conclude that the country of the primeval people was not well-wooded (but the pine, the elm and the alder may perhaps be added, cf. tree-names above, and see later on).

It is possible, however, to push a negative conclusion too far. It may be that the Asiatic branch on leaving an original home that was well-wooded, sojourned for a considerable period in a region that was comparatively treeless, and there lost the names they once possessed. On again settling in a forested district the names of the new coinage would not correspond to those that had first issued from the mint of the undivided people.

Common names for birds are not so numerous as to justify us in asserting woods to have been a prominent feature in the landscape of the original home.

If a consideration of other facts leads to the assignment of a somewhat bare district as the original home, the paucity of trees argued by the above comparisons will not be without corroborative force.

There are no common names for mountain and valley.

For water and its manifestations we have Sk. *udán-*, Gk. ὕδωρ, L. *unda*, A.S. *wæter*, Goth. *watō*, &c.; Sk. *plu*, *pru* 'float, flow,' Gk. πλέω, L. *pluit*, A.S. *flēotan*, &c. To European belong L. *aqua*, Goth. *ahwa*, A.S. *ēa* (*æhwu*), G. *aue* 'Wasserland.'

It falls now to utilise all that has been learnt regarding Aryan culture to assist in determining the scene of the joint life.

This used to be laid in Asia. The primitiveness of Sanskrit, the ancient civilisation and traditional antiqueness of the East, the reputation of Asia as the *officina gentium*, all tended to the allocation of an Asiatic site as the scene of the joint life.

Primitiveness of language proves nothing as to primitive home, and the presence of archaic traits in a language manifestly does not prove its speakers autochthonous in the district or zone. These traits, too, must be gleaned from documents of the same date, and must be appraised as well as counted. Civilisation is not so old as life or language, and depends so much on external and fortuitous conditions, that priority in civilisation does not argue a prior occupation of the country that is its scene.

The possibility of another than an Asiatic scene in due course suggested itself. Latham, arguing plausibly that the whole must originally have been located where the majority of its parts are, maintained the possibility of a European home. Benfey, arguing from the absence of common names of beasts of prey, supported a European site, and located the original home north of the Black Sea, between the Danube and the Caspian. Geiger, to keep to the *habitat* of the bear, and Cuno, to secure a homogeneous area, put forward Germany as the most probable site. Pösche, to account for the blondeness which he assumes to be a distinguishing characteristic of pure and original

Aryans, located the original home in West Russia, in the swampy district of the Pripet, a tributary of the Dnieper, where albinoes are rife. Lindenschmit, partly for common reasons, and partly owing to a disbelief that a race of Asiatic origin would have exhibited the energy and expansiveness of the Aryans, pronounced against Asia. Penka, building on cranioscopy, has supplemented Pösche's description of the pure Aryan, and making him out to be a dolichocephalic blonde, has found his most natural home in Scandinavia, a conclusion supported by the fact that the common culture revealed by an examination of the Indo-European language, is the same, according to Penka, as that revealed by an examination of the prehistoric remains found in Scandinavia. Tomaschek locates the original home somewhere near the Finnic-Ugrian domain; Taylor, in arguing for an affinity between Finnic and Indo-European, is committed to a site that will explain this; Piètrement imagined he had made out a case for Siberia.

Only a year or two ago, J. Schmidt, influenced by traces of a duodecimal mode of reckoning discernible in Indo-European (chiefly seen in Teutonic, compare the breaks in formation after 12, 60, and 120; compare also the use of L. *sescenti* as a big round number with some sort of finality about it, also the break in the formation of Greek cardinals after 60), deemed it necessary to assume for the original home a site that was in touch with Babylonia, where the numeral system had 60 for a progressive basis. Thus would have been given the first definite proof of an Asiatic home. To begin with, such a mode is not to be detected in Indo-Iranian, and traces of a duodecimal reckoning are so widespread (found in China, and in Siberia; compare also the part played by the number 12 in matters Etruscan), that it seems difficult to localise one centre of diffusion. Besides, a prominence given to the number 12 (what of the 12 moon months, and the 12 added days) might account for excrescences in the decimal system (60 = 5 × 12, 120 = 10 × 12). See Hirt's article, 'Die Urheimat der Indogermanen,' in Brugmann's Journal, vol. i. page 464.

Schrader's theory of the original home is plausible, well-reasoned out, and merits attention. It is proposed to give a brief account of it.

Schrader prefaces his attempt to assign a site for the joint life of the Aryans by a determination of the spot where the Europeans and the Indo-Iranians respectively passed through periods of common culture. The scene of the common European culture he makes out to be the tract of country bounded on the south by the Danube and the Black Sea, on the east by the Dnieper, on the west by the Carpathians, and on the north by the swamps and dense forests of Volhynia. The scene of Indo-Iranian culture is made out to be that portion of Eastern Iran that comprises the ancient provinces of Sogdiana and Bactriana.

The first-mentioned site suits the facts that the *data* for a common European culture supply. The trees for which common names exist in European all grow here. In this area might very well take place that change from a nomadic to an agricultural life that the European common language reflects. The obstructions on the borders would give pause to nomadic habits, the closer packing in space, due to the repression of these habits, would force attempts to add to the spontaneous gifts of the earth, the fertility of the soil would richly reward and increase all such attempts. All the animals peculiar to the European fauna are to be found here. Here too the sea, not known in the primitive life, would first be seen, and a term coined. And from this area we can most easily account for the passage of the Europeans into their historical homes. The Slavs and Lithuanians would follow the course of the Dnieper to their home north of the Pripet, outside the zone of the beech; the Teutons would follow the course of the Dniester to their probable centre of diffusion, the basin of the Vistula and Oder; the Italians and Celts together would follow the course of the Danube, the former passing into Italy by the Gulf of Venice, the latter going further up the Danube, and thence passing to their original seat, the central basin of the Rhine.

The choice of Eastern Iran as the scene of the Indo-Iranian period of common culture, has much to recommend it. The region, not without facilities for a nomadic life, would induce and favour a transition to an agricultural life. Here also can be got the gold that was known to the Indo-Iranians. This region, too, is a long way from the sea, quite an indispensable condition for the scene of the joint Indo-Iranian life, inasmuch as the words for sea in Iranian and Sanskrit differ. The similarity that exists between river names in Sanskrit and Iranian is accounted for by the part that rivers play in this district.

After thus allotting to the Europeans and the Indo-Iranians areas for their respective joint lives, Schrader sets about providing an area that will be suitable for the Aryan joint life before the dispersion. Roughly bisecting the distance between the alleged European and Indo-Iranian areas, he selects for examination the tract of country that lies in the basin of the Middle Volga, north of the sandy steppes of the Caspian. Incidentally, he notes that this site will explain many of the points of contact between the Finns and Aryans that language reveals.

Ῥᾶ, too, the Greek name of the Volga, is made to yield evidence that favours this site. It may be supposed that the Finnish name Rawa or Rau, from which the Greeks got their Ῥᾶ (ῬαϜα), derives from an I.E. *sravā*, adopted by the Finns, who entered this district after the departure of the Aryans. Rha has also been connected with Zend *Raṇha*, the name of a mythical river, and seeing that Iranian tribes did once dwell in the neighbourhood of the Volga, this etymology is not to be lightly set aside.

The climate of this area suits the facts that an examination of language disclosed. The winter is long and severe. The hot season follows hard on the cold, and so little gradation is manifest in the passage from extreme cold to extreme heat, that there are practically only two seasons in the year. This is just the state of things that the common language reflects. The landscape is comparatively treeless, but on the banks of the rivers are found birches and willows, both primitive trees, as we saw above. The animals that figure in Indo-European equations are found in the steppe, viz., the wolf, the otter, the mouse, the hare and the polecat. The bear is not a native of the steppe. We must therefore suppose that his incursions into the alleged primitive area were frequent enough to procure him a name. The fox is found all over the steppe, though we saw that the name was in extension only European. Perhaps the Asiatic branch lost the name. All the primitive domestic animals are natives of the steppe—the cow, the sheep, the dog, the goat. The life here is still largely pastoral. Wealth is measured by flocks and herds. The ox is still the beast of burden, and horses are reared in half-wild herds. Of birds, the eagle, the falcon, the owl, the wild duck, the goose, the hen, &c., are found in the steppe. The streams are stocked with fish, so that the lack of a common name relating to fish must be owing to the fact that the primitive people were not educated up to the point of fish-catching. The love of sport in general is of late growth. Salt is plentiful in the steppe, and must have been known. The term must have dropped from the vocabulary of the Asiatic branch. The forms too for salt have features that only primitive words have. The dwellings are underground and altogether seem a reproduction of the Armenian *κατάγειοι οἴκιαι* described by Xenophon.

The manufacture of felt, a primitive industry, is still engaged in all over the steppes.

A good case is thus made out for the site tentatively chosen as the scene of the joint-life. The inductions that an examination of the language caused to be drawn are fairly well borne out by the objective realities of the steppe country of the Middle Volga.

It seems to me that Hirt ('Die Urheimat der Indogermanen,' Brugmann's Journal, vol. i., p. 464) has picked some holes in this theory. He gives plausible reasons for adding the pine and the oak to the list of Indo-European tree-names. To the word appearing in Greek as *δρῦς* ('oak') he assigns 'pine' as the original, and 'tree' as the engrafted meaning, quoting in support Sk. *dēva-dārus* and *pī́tu-dārus*, both denoting species of pines, and rejecting the Greek meaning, as discounted by the shiftiness of that language in the matter of tree-names.

Another pine row is got from Sk. *pītu-dārus*, Gk. πίτυς, L. *pīnus* (from *pītnus* or *pītsnus*).

For *quercus*, G. *föhre* 'fir,' orig. 'oak'—*qu* may be orig. *p*, cp. *quīnque* and πέντε—he pushes forward additional cognates, viz., Goth. *fairguni* ('Gebirge,' ursprünglich 'Eichenwald,' dann 'Wald,' 'Wald-gebirge'), Sk. *Párjanyas* and Lith. *Perkunas* both thunder-gods, but now known by what was originally a by-name = oak-god.

If this presentation of cognates is correct, the site chosen for the original home must be one where the four Indo-European trees (the birch, the willow, the pine, and the oak) grow together. Such a condition throws out of count not only Asia, but Schrader's steppe country. The site must be European and wooded, and Hirt pitches on the country on the Baltic just outside the N.E. corner of the beech zone. He chooses a maritime region, believing that the sea was known to the undivided peoples. The Eastern peoples lost the cognate of L. *mare*, &c. In the words of which ναῦς is the Greek representative it is more correct to recognise something that was sea-going, besides, *mare* must be an old soldier, neuter stems in *i* belonging to an ancient and extinct formation.

Perhaps agriculture was known to the Aryans, for the absence of common terms in East and West may be due to the loss of a culture-gain on the part of the East, brought about by a wandering over steppe country.

The site chosen is favourable to bee-life, and has still wolves and bears.

It is thus also possible to explain the archaic character of the languages in the neighbourhood, viz., Lithuanian and Slavonic. They have been least subject to dislocation and foreign influence.

How long the Aryans retained their purity of blood and racial solidarity, what effect race-mixture had in accelerating the disintegration, and in accentuating the differences of the cognate dialects, at what stage in speech-development, and to what extent, foreign factors began to colour the various results are questions that naturally suggest themselves, but do not admit of ready answers.

It is at any rate true that for differentiation in language and ultimate disseverance a mixture of races is not needed.

What the Aryans were physically, there are not sufficient *data* to pronounce. Some call the pure Aryan blonde and dolichocephalic, but the fact remains that very many of the so-called Aryans are dark and brachycephalic. Which of these represent the Aryan, and which the Aryanised races, is not positively certain. There cannot have been developed two distinct types of pure Aryans, for type is very permanent, and it does not seem permissible to suppose that two racial types, before the appearance of language proper, were thrown together to evolve in social union but racial isolation, the parent speech of the Aryan tribes.

A page or two on the opinions now generally prevalent regarding the origin of speech will fitly close the introduction.

Speech arose at various points on the earth's surface. It was polyphyletic in origin and not monophyletic. The beginnings of speech must have been the same all the world over. Man has the same speech-apparatus, and, at the outset, the same potentialities. The same surroundings, the same time would doubtless convert a Patagonian into a Plato.

The first speech-sounds were doubtless due to reflex action of the speech-apparatus, responsive as it was to the many impressions from without. These speech-sounds were also of full content, and not at all comparable to the cut-and-dry, labelled sound-groups that we call words.

Sentence-words were the units of primal speech. The so-called parts of speech were not yet differentiated. Any of them, and, it may be, more than one at a time, was immanent, proximately or mediately, in any sentence-word. The latter was a sort of phonic *nescio quid.*

Usage and reflection isolated sentence-words of similar application. Grouping would supervene, and a slow, a severely slow development would doubtless in the end produce material that could be delineated in grammatical terms.

Rising thought and a working knowledge of speech-craft must have made plainer the boundaries of these groups, and more sharply marked off their members from the members of other groups. It may very well have been the generalisation of phonic elements in master-words, phonic elements that may or may not have once represented a full idea, or the adaptation of phonic flourishes existing in what was presumably often a song-speech, that has furnished the material and the scaffolding of subsequent inflectional upbuilding.

Roots, as independent, spaced sounds, have been got at by analysis. They existed in the first speech in *posse,* but not in *esse*. Nobody ever talked roots in the usual sense of the word. They are only phonetic types, vocal ideas, sound-pictures without a setting. Nobody ever saw in growth a nutless kernel, or a rindless pith ~~pithless stem,~~ nobody ever saw a live skeleton.

The first words to be sure were not abstracts but concretes, and were predicated only of the objects, feelings, and phenomena of the daily life. Metaphors were in vogue early enough, abstracts were a late aftermath. No one can accurately describe the character of the *Urwörter* without bethinking him of the character of the *Urmensch*.

After having defined the first words in terms of their character, it is expedient to define them in terms of their origin. What is the term that best describes the first words as created things? *Imitative*, I think. By this I do not merely mean that cries (the *pooh pooh* theory), and imitations of natural and animal sounds (the *bow wow* theory) furnished portions of the primitive vocabulary of man, but that this in its entirety consisted of reproductions or reflexions of the sounds heard by him or made by him, of the vocal murmurs and functional noises that were repeatedly in his ears.

I do not then think it right to say that there was no necessary connection between impressions and names. The name certainly reflected the impression of the namer. Impressions were not always full and square, nor even, such as they were, all caught. This may account for the variations in the names of familiar sounds.

The creative stage in language has not passed. Paul in his Principles gives crowds of words of imitative origin that have been developed in later German.

I do not believe that the real first words were as much as I have just said. Set sounds did not come to order. There must have been many attempts and many failures, and the gamut of stable, intelligible sounds was probably not fatiguing in compass.

It seems to me that one of the most powerful aids towards the production of articulate sounds must have been got from the vocal accompaniments of joint action, and from the choric recitative of festal gatherings. It was to the cries of men working in fellowship and co-operation (the *yo-he-ho* theory) that Noiré traced the beginnings of all speech.

In this connection I may mention an able article entitled 'The Festal Origin of Human Speech,' contributed by Mr. J. Donovan to Mind for July 1892, in which, with words of weight, he argues that articulation had its origin in the impassioned intonations of festal excitement. In the same article, if I understand him rightly, he throws out the suggestion that inflexional machinery may derive its origin and its scope from some sort of suffixal sing-song that attached itself to the chants celebrating diverse actions or scenes.

Mention should also here be made of the part that gesture played in the development of speech. It aided in making speech articulate and intelligible. Had man not been an erect animal, with free hands, he would never have possessed language proper, nor, for that matter, any means of effective communication. Had he not elected or been constrained to employ his hands fully in other ways, gesture-language might perhaps have sufficed for the wants of the early man. As it is, gesture-language and speech proper went hand in hand, and it was long till the latter could dispense with the former.

Speech, as speech, cannot be called a scientific process, until set sounds with an established meaning can be produced at will, to be readily apprehended by a second individual.

The earliest sounds used by man for communication were probably in the main manufactured on the spot for the needs of the moment.

When man in his communications with man was able to string a number of sentence-words together with a running cord of connection, he may be said to have passed, intellectually, the border line, whence, if progress had been arrested, man might have reeled back into the beast.

I am well aware how slight and fragmentary the above sketch of the origin of speech is. Nevertheless I have deemed it advisable to set down something on this important topic.

CHAPTER I.

LETTERS—THEIR ORIGIN AND ORDER.

SOUNDS and not letters are the units of importance in language.

The time, however, occupied in the invention, development, and transmission of letters, has been so long, and their history is so bound up with the history of civilisation, that for these reasons alone, leaving out of count their claims as sound-symbols, some little space ought to be set apart to note points of importance and interest connected with their study.

In this chapter the intention is to say just as much about letters as the heading indicates.

Before *letters*, the *art of writing* existed. It was picture-writing, by means of what are called hieroglyphs, representing at first honestly, then conventionally, the objects described. All systems of writing have had this natural origin.

The next stage in the art of writing was the use of the hieroglyph to represent not only the form, but also the name of the object described. The symbol, having gained recognition as a sound-carrier, was then used to represent similar-sounding names.

Next, and naturally, but not soon, it stood for the first syllable of the name; finally, with a progressive people, it became an alphabetic symbol, standing for the sound of the first letter of the name.

It is as if we were to make a picture of the beetle represent, first, the animal, then the sound of its name, then the sound of *beetle* 'hammer,' then the first syllable, and finally, the power of the letter *b*.

The systems of picture-writing (omitting notice of savage systems) known to us are (1) the Egyptian, from which our own alphabet has ultimately come; (2) the Mexican; (3) the Cuneiform; (4) the Hittite; (5) the Chinese. Alphabetic symbols have been evolved from all, save the two last. From these have been developed syllabaries, the Cypriote and the Japanese.

We got our alphabet from the Romans, the Romans got theirs from the Greek colonists of Cumae and Neapolis, who came originally from Chalcis in Eubœa.

In our school histories of Greece we have all read that Cadmus the Phœnician brought letters to Greece. All the classical writers, from Herodotus to Pliny, affirm the Phœnician origin of the Greek alphabet.

In this case tradition and fact are at one. The Greek alphabet is undoubtedly of Semitic origin. One has only got to compare the names and the numerical values of the letters in the Greek and Hebrew alphabets to become convinced of this. If, after inserting the vau, san, and koppa that the blanks in the numerical values of the Greek letters require, we compare as far as tau—the last letter of the primitive number—we shall have visible proof of the strong correspondence.

All existing alphabets, moreover, come from the Semitic, not only the alphabets of the Semitic area, not only the

Greek (and Italic) alphabets, but those of India (probably through the Sabean alphabet of Arabia Felix).

The next question is—Whence did the Phœnicians get their alphabet? Did they invent it? The ancients pretty confidently believed that they got it from Egypt.

It was the Frenchman De Rougé who first (in 1859) actually proved the Egyptian origin of letters. Avoiding the mistakes of his predecessors, who, attempting to affiliate the Semitic characters to the Egyptian hieroglyphs, had been baffled by the dissimilarity in form (to say nothing of disagreement in names, order, and number) of the letters of the two alphabets, he sought for the prototypes of these Semitic characters in a cursive script that was of suitable date (viz., that of the Semitic occupation of Egypt), and that possessed forms fairly similar to the forms compared. This he found in the Hieratic script of the early empire.

Selecting from this, as exhibited in the handwriting of the Papyrus Prisse (a MS. brought from Thebes to Paris by M. Prisse d'Avennes), the characters that were alphabetically used, he compared their forms with those of the oldest available Semitic characters (the Moabite stone was not discovered till 1868), viz., those on the sarcophagus of Eshmunazar, King of Sidon. He was able to trace nearly all the Semitic letters to originals among the Hieratic normal symbols. For refractory letters he was also able to give explanations.

Many of the outstanding differences between the forms of the letters in the two alphabets are due to the material used in writing. The Hieratic letters were written on papyrus with a brush-pen, the Semitic letters were written in stone with an iron pen.

The alphabet, then, such as it was, was borrowed from the Egyptians during the dominion of the Hyksos, or Shepherd Kings, a Semitic stock, about the 19th century B.C. These on their expulsion diffused it over the zone of their influence, but previously and afterwards it was diffused among those with whom they had trading relations by the Phœnician colonists who had settled on the Delta during the Semitic occupation, and had remained after it ceased.

The Semites, rejecting non-alphabetic elements, renamed, rearranged, and adapted for phonetic purposes the letters they had borrowed. The letters have often been renamed since.

The Greeks, after adopting the Semitic alphabet, evolved characters out of the breaths and semi-consonants to express vowels, thus contributing their share towards the perfection of the alphabet. Semitic has no true vowels; in the primitive Egyptian the vowels were to a large extent inherent in the consonants.

The force of the above argument seems to destroy all chance of proving the Semitic alphabet to be of home growth. Besides, alphabets, like civilisations, have not been begun, developed, and perfected by one race, and within one area, at all sorts of odd points on the earth's surface. Transmission is the antecedent probability if the conditions are favourable.

Attempts have been made to derive the Semitic alphabet from the Assyrian cuneiform, but as yet no plausible case has been made out.

To tell why the letters of our alphabet appear in their present order rather than in another, it will be necessary to refer to the Semitic alphabet. Beyond this it will not be necessary to go, for, as we shall presently see, their present order is of Semitic upgrowth.

For this purpose, let us look at the letters of the Hebrew alphabet. Transliterated they run as follows :—*'a*, *b*, *g*, *d*, *h*, *v*, *z*, *ch*, *ṭ*, *y*, *k*, *l*, *m*, *n*, *s*, *'a*, *p*, *ṣ*, *q*, *r*, *š*, *t*. Their names are *aleph*, *beth*, *gimel*, *daleth*, *he*, *vau*, *zayin*, *cheth*, *teth*, *yod*, *kaph*, *lamed*, *mem*, *nun*, *samekh*, *'ayin*, *pe*, *tsade*, *qoph*, *resh*, *shin*, *tau*. They exceed twenty-one, the third multiple of seven, by one letter. The positions of *z*, *s*, and *š*, are noticeable. They occupy, if *k* be placed beside *q* (of which letter it was originally a homophone, but became differentiated), the seventh, fourteenth, and twenty-first places, sacred places according to Semitic notions. If we now read over the letters, omitting the four sibilants, a certain method in arrangement appears to be present. Neglecting then *z*, *s*, *ṣ*, and *š*, and also *k* and *r*, variants of *q* and *l*, we have four breaths, followed by several letters of one class, viz., *'a* by *b*, *g*, *d* ; *h* by *v*, *ch*, *ṭ* ; *y* by *l*, *m*, *n* ; *'a* by *p*, *q*, *t*. This seems to afford a clue to the arrangement. Evidently the classification is according to sound, as in the Sanskrit alphabet.

There are other classifications of alphabetical symbols, viz., according to form, name, or date of introduction. The modes of classification have been called the phonological, the morphological, the ideological, and the chronological. The position of the Greek letters of later origin—υ, φ, χ, ψ, ω—at the end of the alphabet is one of the best examples of chronological order.

We may expect that the facts before us will not all be explained by one of these modes. But let us first tabulate what we have ascertained—

	Sonants	Continuants	Liquids	Surds
Breaths	ʼa	h	y	ʻa
Labials	b	v	m	p
Palatals	g	ch	l	q
Dentals	d	ṭ	n	t
Sibilants	z	ṣ	s	š

Here we have *aleph* followed by three sonants, *he* by three continuants, *yod* by three liquids, and ‘*ayin* by three surds, while to each of these groups there can be conveniently attached a sibilant. A cross reading proves too that the consonants after the breaths follow one another in the order of labials, palatals, dentals.

It may fairly be argued that we have before us the original arrangement of the Semitic alphabet, and that based on phonological principles. If we suppose then that the introduction into the alphabet of the new letters *k* and *r*—*k* beside its original *q*, by right of descent, and *r* beside *s*, by name-association (resh ‘head,’ beside shin ‘teeth)’—spoiled the harmony, and brought about a new arrangement in which *z*, *s*, and *š*, were to have the seventh places, we get an order that is almost identical with the received order of the Hebrew letters given above. By name-association, *k* was afterwards placed after *y*—kaph 'palm' after yod 'hand'—and *m* beside *n*—mem 'water' beside nun 'fish.'

No explanation is given in the authorities of the place of *ṣ* in the received alphabet. The real meaning of tsade is not known.

A very few considerations have enabled us to see how the received order of the Semitic letters has been evolved from the primitive phonological order.

The order of letters in the Greek alphabet, which up to tau, corresponds closely with that of the Semitic, is of course explained by the explanation of the other. The letter tsade, Gk. san sampi, was lost out of the Greek alphabet, but was afterwards reintroduced to denote the numerical value 900. The loss is evidenced by the sudden break of identity in the numerical values of the Greek and Semitic letters. Among these, pi and pe both stood for 80, while in Semitic, 90 was denoted by tsade, and in Greek by koppa, used only as a numerical sign. The corresponding letter in Semitic, viz., qoph, stood for 100, a clear proof that a letter had dropped in Greek.

The English order of letters is explained so far by the explanation of the order in its prototypes, but, adopted as it has been from the Latin alphabet, some details need to be added anent certain special features of the latter.

It will also be convenient to insert here and there, as the case requires, facts of interest in connexion with the Greek alphabet.

The Latin alphabet, as has been already said, was got from the Chalcidian colonists of Cumae and Neapolis. These used what is called the Western or Hellenic alphabet, and transmitted it to the Italians. The alphabet that ultimately prevailed in Greece during the classical period was called the Eastern or Ionian alphabet.

Let us then, by way of fully accounting for the English order, notice the differences that exist between the Greek and Latin alphabets.

In the Latin alphabet, we have *c* in the third place, and in the seventh *g*, while zeta has disappeared. Gamma was written as *c* in the Chalcidian alphabet, and this character, as records prove, had originally the value of a soft mute, but, owing it is said to the influence of Etruscan, which had not soft mutes, got hardened, and thus became synonymous with *k* (compare Chap. VII. p. 171.) After a while, *k*, a letter with which certain Latin words continued to be written, dropped out of general use, and *c* represented the sound of both *k* and *g*. Later on a differentiation of *c*, seen in our capital letter **G**, stood for the soft sound, and took the place in the alphabet that had been filled by the seventh letter zeta, the sound of which was not needed in Latin. Vau (*F*, called digamma, from its resemblance to two gammas superimposed) the sixth letter, which in the Eastern type of Greek alphabets had only a numerical value, kept its place in the Western, the parent of the Latin alphabet, but took on it the power of *f*. Its former power was *w*.

The Greek eta and the Latin *H* have the same position, and the same form, but different values. In the Semitic alphabet, the eighth position was filled by cheth with the sound of *ch* in Scotch *loch*, but in the Greek alphabet this sound had been reduced to that of the aspirate, thus taking the place of the fifth letter he, out of which the vowel epsilon had been evolved. At first, the sounds of epsilon and eta were both denoted by *E,* finally, *H,* after doing double duty for some time as the representative of both eta and the aspirate, was set apart to denote eta, while out of the first half of a halved *H* was evolved ‘, the sign of aspiration. From the other half was evolved ’. The characters for theta, phi, and chi, were used in Latin only for symbols of numerical value, though in Etruscan they had a position in the alphabet. Theta furnished a symbol for 100, which was afterwards accommodated in form to the initial letter of centum. From a variety of chi was evolved *L,* the symbol for 50, from phi, a symbol, which was afterwards confused with the first letter of mille. Psi and omega do not occur in the Chalcidian alphabet, from which the Latins got theirs.

In the Greek alphabet, which originally ended with τ, characters were obtained for the representation of φ, χ, ψ, ω, by differentiating existing symbols. Φ was obtained, through intermediate forms, and by differentiation, from the character for theta, not at all an odd proceeding, if we remember how frequently *f* and *th* have been interchanged. To represent the sound of theta, by the bye, the Greeks in adopting the sign for the Phœnician teth, made use of a character that stood for a sound quite foreign to their own tongue. A character for chi, originally represented, as was phi, by writing the tenuis and aspirate, was got by differentiation, from *K*, for psi, by alteration of phi, and for omega, by a modification of capital omicron.

It is well to remember that the Greek characters so familiar to us are quite modern minuscule developments of the eleventh century.

In the Western type of the Greek alphabet, from which the Latin alphabet was derived, the sound called samekh in the Semitic alphabet, which in the Eastern type had, while keeping the original form, developed its sound to *x*, sided off into two sounds *s* and *x*. The first of these had already representation in the alphabet, and was soon discarded, retaining only numerical value, the second, was as a new letter transferred to the end of the alphabet. Koppa was retained in Latin, and, with the addition of *u* represented the velar guttural.

Out of vau there was developed not only *F*, but a vocalized *F*, written *Y* or in Latin *V*. *F* retained the place of the present letter, while *V* was relegated to the end of the alphabet.

The sound of *V* in Latin was *w*, the dental sound of the English *v* being probably not present in Latin and Greek. The stopped character of the consonant is, according to Taylor, proved by its name in Latin, viz., *ve*, for, had it been a continuous consonant, it would have been called *ev*, on the analogy of *ef*, *el*, *em*, &c.

The position of *Y* after τ in the Greek alphabet proves it to have been the first of the additional letters.

The differentiation and transference of *X* has been already spoken of.

The character *Y* was introduced in Cicero's time to furnish a distinct sign for the Greek upsilon, which had formerly been represented in Latin by *V*, the equivalent of ου.

Z was reintroduced in the first century B.C. to transliterate Greek words.

U (orig. the uncial and cursive form) and *V* (orig. the capital form) were made separate signs about the fifteenth century A.D., *V* (a favourite initially) being chosen to represent the consonantal sound. *W* (a ligature of two *v*'s) appeared in the eleventh century.

In the fifteenth century, *I* was manipulated by way of ornament at the beginning of a word, and provided with a little addition on the left side. This differentiated form, *J*, was set apart to denote the consonantal sound.

In the same century *Z* was taken into the English alphabet, to which it hardly belonged, from the French.

It is decidedly worth inquiring why we say *a*, *b*, *c*, &c., instead of using a reverse, or zig-zag order, and Taylor's account, as just given, seems convincing.

It is not the business of this chapter to trace the connexion between the various types of letters that have been used to represent sounds, nor is it its business to compare the primal types with the original prototypes.

Graphic developments within the same hand are usually exaggerations of special features, and used either for pure ornament, as in Black Letter, or utilised for needful differentiations, as with the left turn of *j*, really an ornamental *i*.

The dot on *i* was originally (the capital has none), in the shape of an acute accent, a diacritic, to help reading in such cases as *m*, *ui*; *iu*, *ui*; *u*, *ii*, The dot is needlessly retained in *j*, thus proving the origin, and the date of the origin, of that letter.

Punctuation is now mainly logical, but at first was perhaps an attempt to mark the sentence-accent.

CHAPTER II.

SOUND RELATIONS IN INDO-EUROPEAN—VOWELS AND DIPHTHONGS.

THE number of sounds that used to be allotted to primitive European was strictly limited. Especially was this so in the case of vowels. The scant number of vowels in Sanskrit was supposed to reflect correctly the condition of the parent-speech. The primitive vowel system would probably have been put down thus:—**Vowels** : *a*, *ī̆*, *ū̆* ; **Diphthongs** : *ai*, *au* ; **Semi-vowels** : *y*, *v*.

Consonants were proportionately meagre. Under guttural were put down *k*, *g*, *gh* ; under dental, *t*, *d*, *dh* ; under labial, *p*, *b*, *bh* ; under sibilant, *s* ; under liquid, *r*, *m*, *n*. Vowels and consonants together gave twenty sounds.

Now-a-days we have some thirty-nine sounds allotted to primitive Indo-European. It is felt that there is no good reason for denying to the parent speech the richness in sounds that is the property of many later languages. Only the promptings of a false analogy, or the craving for an unnatural unity, could have induced another belief. Why should not the parent-speech have had wealth and complexity of sounds? Language even at its first beginnings must have had a fairly large capital of sounds.

Is it likely that primitive man with his large powers of mimicry, remained, amid the myriad sounds of his surroundings, so unimpressionable, as the scant stock of sounds summarily assigned to the parent-speech would lead one to suppose, and this too at a time when the *nuances* of thought and desire, such as these were, must have been expressed to a certain extent by tricks of sound? Would not this vocal range be afterwards reflected in the number and variety of speech-sounds, any later simplification being the result of a long period of wear and tear.

But there is no need to weigh probabilities. The sounds of the parent-speech can be got at by the dry light of inference. The sound-systems of its various families have simply to be compared and reasoned on. These families are the *Indo-Iranian*, the *Armenian*, the *Greek*, the *Albanian*, the *Italic*, the *Keltic*, the *Teutonic*, and the *Letto-Slavic*.

A comparison of the sounds found in these, has led to the assignment of the following sound-system to primitive Indo-European:—

Vocalic.

Vowels: *ā̆, ē̆, ō̆, ī̆, ū̆.*
Diphthongs: *ā̆i, ē̆i, ō̆i, ā̆u, ē̆u, ō̆u.*
Indeterminate vowel: *ə.*

Consonantal.

Semivowels: *i̯, u̯.*
Consonant-vowels or Sonants: *ṝ̆, ḹ̆, ṃ̄̆, ṇ̄̆.*
Spirants: *j, v, s, z.*
Liquids: *r, l.*
Nasals: *m, n.*
  Explosives—
    Labials: *p, b, ph, bh.*

Dentals : *t*, *d*, *th*, *dh*.
Palatals : *k*, *g*, *kh*, *gh*.
Velars : $k^{u̯}$, $g^{u̯}$, $kh^{u̯}$, $gh^{u̯}$.

Some deny a place in the list of vowels to *i* and *u*, pronouncing them transformations of *ei* and *eu*, through intermediate and of course derivative *ī*, *ū*.

In addition to the labial and dental nasals mentioned above, there were also velar and palatal varieties.

There was also a *ü*, or modified *u*, in the parent-speech.

On comparing the new list with the old, it will be seen that the former has included *e* and *o* in the number of primitive vowels. These used to be considered, under every condition and in all circumstances, European weakenings or colourings of *a*, and by no means entitled to rank with the sacred triad *a*, *i*, *u*. The part played by these vowels in Sanskrit vocalism was the cause of this belief, and doubtless the simplicity produced in the Gothic vocalism by the replacement of *e* and *o* with *i* and *a*, strengthened this belief.

All this has been changed. The omnipresent *a* of Sanskrit has been diagnosed to be a late levelling, and decomposed into *a*, *e*, *o*. Curtius had, it is true, discovered that the European languages in similar circumstances have *e*, but not to the same extent *o*, in common.

It can be proved that *a* **in many cases is not a primitive vowel**. Nothing is more certain than that the second *α* on *πατράσι* (Sk. *pitṛ́shu*), taken with the *ρ*, is a Greek fashion of writing the Sk. *ri-* vowel. The insertion of an auxiliary vowel to facilitate pronunciation is often urgently required. The combination—consonant-vowel and parasite—was then generalised, and used where a positive phonetic need did not exist.

In the face of this, it is manifestly absurd to call the *e* and the *o* of, say δέρκομαι and δέδορκα, modifications or splittings of an α, seen in ἔδρακον (Sk. *ádr̥śam*), which is in this case merely a ghost-vowel. Just so the α in ἔβαλον (for ἐβl̥ον), having only, one might say, an auxiliary existence, cannot be the sound from which has radiated the ε and ο seen in βέλος and βολή. A comparison of τείνω (for τενι̯ω) and τόνος with τατός (for τn̥τος)—the nasal vowel is written α in Greek, as may be proved by putting side by side ἑκατόν (for ἑκn̥τον) and *centum*—of τέμνω and τομή with ἔταμον (for ἔτm̥μον), leads to the same conclusion. More on these syllabic liquids and nasals later on. In these words then, *e* and *o* have an independent existence.

Further, it can be shewn that *a*, **in Sanskrit, often functions as a palatal vowel** would do in the circumstances, and that, in such cases, *e* appears in Greek, and generally in European.

Before the *a* of the reduplicated syllable in Sanskrit gutturals are palatalised, *k* appearing as *c* (the palatal, sometimes written *ch*), *g* as *j*, &c. For example, the perfect of the root *kar* 'make' is *cakāra*, and the only possible explanation is, that, while the second *a* is the ordinary back-vowel, before which the guttural is stable, the first is a front vowel, presumably *e*, before which the guttural is palatalised. In support of this, there is the fact that in Greek the vowel of the reduplicated syllable is ε. Precisely the same explanation holds for the palatal of *ca* (Gk. τε, L. *que*). These are only two of many similar instances. It appears then, that not only is *a* in European not always primitive, but that, in Sanskrit, it is sometimes demonstrably *e*, or a^e, as it is sometimes written. The vowel *e* must be admitted to have as high an antiquity as the vowel *a*. The primitiveness of *e* involves that of *ē*, and the diphthongs *ei* and *eu*.

The proof that establishes the priority of *e*, **also establishes that of** *o*. They have always, so far as transmitted evidence goes, co-existed in verbal and nominal formations of established position and primary build, both singly, and in combination with semi-vowels and sonants.

A correct estimate of the following facts ought to establish the priority of *o* (*ō*, *oi*, *ou*). To get these, extract the ablaut-vowels from *δέρκομαι δέδορκα*, *ῥήγνυμι ἔρρωγα*, *ἄγνυμι ἔᾱγα*, and place beside these the corresponding primitive vowels of Teutonic. Thus :—

	Greek.		Teutonic.
I.	ε : ο	=	e : a
II.	η : ω	=	ē : ā
III.	α : ᾱ	=	a : ā

Teutonic replaces *ο* by *a*, and *ω* by *ā*. The sound *ā* from both originals afterwards passed into *ō*.

Assuming that the priority of ε and η has been proved, does any one believe that the ο and ω are other than primitive? Is it likely that relations so manifestly organic owe their existence to a sentimental setting of the so-called splittings of *a*? One had much better be true to the symmetry, and pronounce ο and ω as original as their correlates ε and η. The *e* and *o* ablaut has quite as distinctive position as the *a* and *ā* ablaut. It is plain from a comparison of the two tables, that the *a* : *ā* ablaut is a thing apart and standing by itself.

In this connexion it is proper to remark that Armenian, a language usually classed as Asiatic, has a short *e* and *o*, but perhaps we ought to class it among the European languages, or call it a link between Asiatic and European.

There is good reason then for declaring the European vowel-system to be more primitive than the Indian. We may either say that *e* and *o* in Sanskrit have been levelled under *a*—in an open syllable, *o* is in Sanskrit represented by *ā*—or that *a* is a graphic expedient to denote what had better have been denoted by another sign. In scientific language *e*, *o*, *a*, are sometimes written a^1, a^2, a^3; *e* and *o*, a^e and a^o. (See page 140).

What is in the new list called the indeterminate vowel, and represented by the current symbol for an obscure vocalic sound, viz., a turned *e*, appears in Sanskrit as *i* (as *a* before *i*-vowels). In European languages, this vowel was levelled under *a*. For an example take Sk. *pitā́*, Gk. πατήρ, L. *pater*, Goth. *fadar*, O.H.G. *fater*. In Greek, the analogy of strong *e*- and *o*-forms sometimes brings about the intrusion of *e* and *o* instead of the usual *a*—ἑτός (L. *sătus*), δοτός (L. *dătus*).

The next addition to the original list is furnished by the presence of the **lingual and nasal consonant-vowels** *ṛ*, *ḷ*, *ṃ*, *ṇ*. These are also collectively called sonants, or subdivided into syllabic liquids—*ṛ*, *ḷ*, and syllabic nasals—*ṃ*, *ṇ*. Their sounds are heard in the English words *butter*, *bottle*, *buxom*, *button*. The full consonant equivalents of these are heard in *butterine*, *bottler*, *buxomer*, *buttoner*.

All the consonant-vowels have not separate characters. Sanskrit represents, with variations, *ṛ* and *ḷ* by the *ri*- and *li*-vowels. The nasal vowels in Sanskrit, and both sets of vowels in other languages, are represented by the ordinary nasal and lingual consonants, preceded, or, as in Greek, followed by a developed inorganic vowel. Of these sounds there are short and long varieties. For their representation, consult the table of sounds. 'Examples will be found in the commentary.

It will be seen that in the present list of primitive sounds the place of the old simple gutturals is taken by two rows of consonants called respectively **palatals and velars.** The palatals are formed by the action of the tongue against the hard palate, the velars, by its action against the *velum palati* or soft palate.

In Latin, Greek, and Celtic, the palatals are written as simple gutturals, but appear in Sanskrit as *ś* (*ç*), *j*, (*jh*) *h*. *ś* is called the palatal sibilant in Sanskrit grammars, and is set down with the pronunciation *sh*. In Brugmann's grammar, the characters used to represent them are *k*, *g*, *gh* (with small arch over guttural). *k* (Sk. *ś*) has become a sibilated spirant in Sanskrit; all three (*k*, *g*, *gh*) have become sibilated spirants in Zend, Letto-Slavic, and Armenian.

The velars appear in Sanskrit (and Zend) as simple gutturals (or palatalised gutturals), without any labial modification, as also in Armenian and Letto-Slavic; in Greek, their treatment is twofold, and will be alluded to presently; in Latin and Teutonic, they often appear with full labial modification—*quis*, Goth. *hwas*.

In Greek, Latin, Teutonic, and Celtic—not necessarily in all three at once—the velars, however, also appear as simple gutturals, and sometimes, as in the question, 'hard palatal or hard velar,' it is only by a comparison with Sanskrit that we can determine to which row of gutturals the sounds under examination belong.

In the foregoing list the velars have been set down as *k*$^{u̯}$, *g*$^{u̯}$, *gh*$^{u̯}$. Brugmann writes the hard velar as *q*, and uses a modification of *g* to represent the soft velar.

In Sanskrit, the velars are palatalised before *i*, and before *a*, corresponding to European *e*, and represented in writing by *c* (*ch*), *j*, (*jh*) *h*. These are called palatals in Sanskrit Grammar. The characters *j*, and (*jh*) *h*, thus represent both palatals and palatalised velars.

After these remarks on the general representation of palatals and velars, it will be necessary to notice one or two **particular transformations to which velars are subject in Greek.**

Before *o*-vowels, before lingual and nasal vowels, before liquids and nasals (and before τ, θ, ς), the velars become—rounding was induced, and lip-stoppage substituted for back-stoppage — respectively by action of the labial element π, β, φ, e.g , ἕπομαι (L. *sequor*), νίπτρον 'water for washing' (Sk. *niktás* 'washed off'); βαίνω (L. *veniō* I.E. *g*$^{u̯}$*m̥i̯ṓ*); φόνος (Sk. *ghnánti* 'they strike'). These transformations used to be called labialisms, and explained by the supposed intrusion of a parasitic *u̯*.

Before *i*, *e*, the velars become respectively τ, δ, θ, e.g., τίς (L. *quis*); δελφύς 'womb' (Sk. *gárbhas*, A.S. *cealf* 'calf'); θερμός (L. *formus*). In τίς &c., the velar guttural has been drawn forward by the front vowel to the dental position. Compare the change wrought on the original initial velar guttural *k*$^{u̯}$ in Sk. *cakrás* (Gk. κύκλος (κFεκFλος), A.S. *hweogel*, E. *wheel*, I.E. *k*$^{u̯}$*ek*$^{u̯}$*ró*). It must not be supposed however that this Sanskrit palatalisation, and the intermediate palatalisation that is to be inferred in the passage of *k*$^{u̯}$ into τ in Greek, were synchronous, for the τ only appears in words that have congeners with π (τίς and πότερος). The labial after-sound must then have been felt, and the attracting force of the succeeding front vowel have been exerted despite the existence of said sound. There must also have been some peculiarity about the pronunciation of these labialised gutturals that rendered them liable to be thus acted upon, for velar *k* without labial modification remains even when followed by a front vowel.

The last-named transformations of original velars in Greek used to be called dentalisms, and explained by the intrusion of a parasitic *i̯*.

The subject of palatals and velars is such a hard one, that the subsequent tables will to a certain extent be anticipated, and some of the main facts relative to their representation be set down at this point.

	I.E.	Sk.		Gk.			L.		Teut.	
			palatalised velars	velars before *o*, &c.	velars before *i*, *e*	without labial modification		without labial modification		without labial modification
Palatals	**k**	**ś(ç)**		ϰ			**c**		**h**	
	g	**j**		γ			**g**		**k**	
	gh	**h**		χ			**h,g**		**g**	
Velars	**k**$^{\underset{\frown}{u}}$	**k**	**c**	π	τ	ϰ	**qu,c**	**c**	**hw**	**h**
	g$^{\underset{\frown}{u}}$	**g**	**j**	β	δ	γ	**gu,g,v**	**g**	**kw**	**k**
	gh$^{\underset{\frown}{u}}$	**gh**	**(jh)h**	φ	θ	χ	**gu,v,** **f,b**	**h,g**	**(g)w**	**g**

The hard aspirate velar *kh*$^{u̯}$, without labial modification, is seen in Sk. *śankhás* ‘conch-shell,’ Gk. κόγχη ‘mussel,’ L. *congius* ‘quart’; and, with labial modification, in Sk. *nakhás*, Gk. ὄνυξ, L. *unguis*.

It ought to be stated here, that, in the parent speech, there were perhaps two varieties of palatals—one, the pure palatals, the other, the sibilated variety appearing in Sanskrit, Zend, and Letto-Slavic.

Sometimes, in words which had a velar in Indo-European, no trace of the labial after-sound is found in any of the labialising languages—Gk. κύτος, L. *cutis*, A.S. *hȳd*, O.H.G. *hūt* (G. *haut*).

In these cognates, however, the absence of the sound in question can be accounted for, since *u̯* disappeared before *u* in these languages.

With regard to the non-labialisation of certain languages, there are as yet no definite data to decide whether this feature was in them from the beginning, labialisation being a special, self-developed characteristic of the labialising languages, or whether an originally common process became narrowed in its sphere of operation.

Perhaps the ordinary labialisable velar, and the unlabialisable velar of Sanskrit, Zend, and Letto-Slavic, may represent two varieties of velars. It is odd that the languages which sibilate the palatals have no labial modification of the velars. Were these sibilating and non-labialising peoples neighbours in the original habitat? Not that this one agreement entitles us to postulate original uniformity in other particulars. It is also to be noted that in the non-labialising languages there is sometimes an interchange between palatal and velar explosives.

It falls now to state in tabular form **some of the principal correspondences that obtain between the sounds of certain representative Indo-European languages**, viz., *Sanskrit*, *Greek*, *Latin*, *Gothic*, *Anglo-Saxon*, and *Old High German*.

The commentary registers certain noticeable representations that are not always noted in the table. For further remarks on Anglo-Saxon vowels, consult Chaps. VIII. and IX.

This is perhaps the place for a little historical matter anent these languages. *Sanskrit* is one of the Aryan languages, the others are *Zend* and *Old Persian*. The name is properly applied to the literary language of the learned and priestly class. The vulgar dialect was called *Prākrit*, and from it have come the present languages of India. *Greek* is a general name for three dialects, traditionally known as *Doric*, *Æolic*, and *Ionic*.

The *Teutonic* languages were divided into two groups, *East Germanic* and *West Germanic*. The members of the first are *Gothic*, and *Norse* (*Swedish*, *Danish*, *Norwegian*, and *Icelandic*). *Gothic* means the language of the *Western Goths* of the Balkan Peninsula, into whose language Ulfilas translated the Scriptures in the fourth century. The second group is composed of *Anglo-Saxon*, *Old Frisian*, *Old Saxon*, *Old Dutch*, and *Old High German*.

Here follows the promised table :—

I.E.	Sk.	Gk.	L.	Goth.	A.S.	O.H.G.
a	a	α	a e i u	a	a æ ea e, o	a e
ā	ā	α η (Ionic)	ā	ō	ō ē	uo
e	a	ϵ	e i u o	i aí	e i eo	e i
ē	ā	η	ē ae oe ī	ē (ei)	ǣ ō (ē) i	ā i
o	a	ο υ	o u e i	a	a æ ea e	a e
ō	ā	ω	ō ū	ō	ō ē	uo
i	i	ι	i e	i	i e	i e
ī	ī	ῑ	ī	ei(=ī)	ī	ī
u	u	υ	u	u aú	u y o	u o
ū	ū	ῡ	ū	ū	ū ȳ	ū
ai	ē	αι	ae ē	ái	ā ǣ	ei ē

I.E.	Sk.	Gk.	L.	Goth.	A.S.	O.H.G.
āi		See Examples				
ei	ē	*ει*	ei ī	ei	ī	ī
ēi		See Examples				
oi	ē	*οι*	oe ū	ái	ā ǣ	ei ē
ōi		See Examples				
au	ō	*αυ*	au ū ō	áu	ēa	(au)ou ō
āu	āu	*αυ*	au āv			
eu	ō	*ευ*	eu ū	iu	ēo	iu eo io
ēu		See Examples				
ou	ō	*ου*	ū ō	áu	ēa	(au)ou ō
ōu	āu	*ου*	āv			

These Indo-European sound-correspondences will now be illustrated by examples taken from each of the languages in question. The very possibility of a tabular statement implies, and consistency no less than brevity demands, that these illustrations be furnished by cognate words.

Certain main transformations that the original sounds undergo in the various languages will at this point, as a rule, be simply referred to as illustrations of certain well-defined sound-processes. In another chapter (V.) will follow definitions of these processes. It will, however, be well to give under each sound such explanatory matter as cannot well be held over, or can there be most conveniently given.

a : Sk. *ájras* ' plain,' Gk. *ἀγρός*, L. *ager*, Goth. *akrs*, A.S. *æcer*, O.H.G. *acchar* (**agros**).

Sometimes *i* appears in Sanskrit, instead of *a*. Take as an example *pitár-* (Gk. *πατήρ*). In this word, the *a* represents the indeterminate vowel, which appears in European as *a*.

For the replacement of a in Latin by *e*, *i*, and *u*, take as examples *confectus* (*faciō*), *recuperō* (*parō*), *inde* (ἔνθα) ; *mancipium* and *mancupium* (*capiō*), *insiliō* (*saliō*), *adigō* (*agō*), *attingō* (*tangō*), *insultō* (*saliō*). These replacements are found in unaccented syllables—*e* in closed syllables, before *r*, and when final ; *i* or *u* (*i.e. ü*) before labials, before *l* in open syllables, and before *ng ; u* before *l* followed by another consonant, but not before *ll*.

In Anglo-Saxon *æ* for *a*, as in *æcer*, is found mostly in closed syllables, or in such as were originally closed, as *æcer* (Goth. *akrs*) ; *ea* is due to breaking—*eax* (L. *axis*), or *u*-umlaut—*cearu* and *caru*. For changes wrought on *ea* by umlaut, see Chap. V. For an example of *e*, due to *i*-umlaut, take *ęcg* ‘edge’ (L. *acies*); for *o*, used interchangeably with *a* before nasals, take *mǫnn*, finally supplanted by *mann*. There are two *o’s* in Anglo-Saxon—the last mentioned, open *o* (Goth. *a*), alternating with *a*, and a close *o*, from original *u*.

For an example of umlaut-*e* in Old High German, representing original *a*, take *elbir* ‘*swan*’ (L. *albus*). This umlaut however did not take place, if there intervened a consonant preceded by *l*, *r*, *h*—*nahtim* ‘*noctibus*.’

ā : Sk. *bhrā́tar-*, Gk. φρᾱ́τηρ, L. *frāter*, Goth. *brōþar*, A.S. *brōðor*, O.H.G. *bruoder*.

In Teutonic *ā*, was everywhere changed into *ō*, which passed into *uo* in Old High German, through the intermediate stages *oa* and *ua*.

The *ē* that appears in Anglo-Saxon is due to *i*-umlaut, and may be seen in dat. *brēðer*, or, if an independent word is wanted, in *grēne* ‘green’ (*grōwan* ‘grow’).

Final *ō* (orig. *ā*) is shortened to *a* in polysyllabic words—Goth. *þiuda*, O.H.G. *diota* (G. *deutsch*, E. *Dutch*), A.S. *ðēod*. Compare O.L. *touto* (Oscan *medix tuticus* ‘curator populi’). In Anglo-Saxon, long stems drop the vowel, short stems have *u* (*o*).

e : Sk. *ásti*, Gk. ἐστί, L. *est*, Goth. *ist*, A.S. *is*, O.H.G. *ist*. Short *e* appears in Sanskrit as *a*. Sometimes *i* occurs in place of original *e*—*mindā́* ‘defect’ (L. *menda*).

For *i* in Latin, take as examples (a) in originally unaccented syllables—*obsideō* (*sedeō*), *agite* (ἄγετε) (b) in closed syllables followed by nasals, notwithstanding accent—*in*, *intus* (ἐν, ἔντος), *quīnque* (πέντε). Perhaps *i*, to begin with, only appeared in *in*, when followed by a consonant. Then followed levelling of the *e*-form under the *i*-form. But *in* was usually proclitic and unaccented. Note also *dīgnus* (*decet*).

The *i* in the last word is long, in conformity with a law of the classical period, assigning length to every vowel before *nf*, *ns*, *gn*, *gm*.

Original *e* also appears in Latin as *a*—*anguilla* (ἔγχελυς), *magnus* (μέγας), *vas* (ἄ-(Ϝ)εθλος), *pateō* (πετάννυμι), *flagrō* (φλέγω), *nanciscor* (ἐνεγκεῖν); and as *u*, *o*—*ulcus* (*vulcus*, *velcus*—ἕλκος), *pluit* (πλέ(Ϝ)ω), *novus* (νέ(Ϝ)ος), *socer* (ἑκυρός), *coquō* (πέσσω).

e remains before *r*—*ferō*, double consonants—*obsessus*, and finally—*agite* (ἄγετε). Note *seu* (*sī-ve*).

I.E. *e* was replaced in Teutonic by *i* (a) before nasals + consonant — A.S. *bindan* (Gk. πένθερος 'father-in-law') ('connexion'), L. *offendimentum* 'chin-cloth' (**bhendh-**) (b) before a syllable containing *i*, *j*, or *ī*—Goth. *ist*, A.S. *is*, O.H.G. *ist* (Gk. ἐστί) (c) before a syllable containing *u* —A.S. *sibun*, Goth. *sibun*, O.H.G. *sibun* (Gk. ἑπτά) (d) in enclitic words—A.S. *ic*, Goth. *ik*, O.H.G. *ih* (Gk. ἐγώ), and unaccented syllables — Teutonic nominal suffix *-iz* (Goth. *agiza* 'fear'), corresponding to Sk. *-as*, Gk. -ες, L. *-es*.

At this point, the replacement of *e* by *i* stopped in West Germanic, but Gothic—Gothic and Norse represent the East Germanic branch of Teutonic—replaced every *e* by *i*, which before *h* and *r* again became *e*, written *aí*.

It is to be added also that, in Anglo-Saxon, original *e* before simple nasals, became *i*—A.S. *niman*, O.H.G. *neman*, Gk. νέμω. This change also took place in words borrowed at an early date from the Latin — A.S. *gimm* 'gem,' L. *gemma*, A.S. *pinn*, L. *penna*.

A good example of original *e* running right through is Sk. *bhar-*, Gk. φέρω, L. *ferō*, Goth. *baíran*, A.S. *beran*, O.H.G. *beran* (**bher-**).

Besides original *e*, sometimes for distinction written *ë*, there was another *e*, the product of umlaut. It is uncertain which of these was close, and which open. Sweet and Sievers give umlaut-*e* as an open sound. Wright, in his Old High German Primer, would have it that umlaut-*e* had a close sound, like the *i* producing the umlaut.

aí in Gothic is due to breaking, *eo* in Anglo-Saxon is due to the same cause. For changes wrought on *eo* by umlaut, see Chap. V.

ē : Sk. *dhā́nam* 'position,' Gk. θήσω, Goth. *gadēþs* 'deed, position,' A.S. *dǣd*, O.H.G. *tāt* (**dhe(k)**-, L. *faciō* has reduced root).

Sanskrit replaces *ē* by *ā*. That *ē* did once stand is proved by the palatalisation it effected on the preceding velar before its disappearance—cp. Sk. *-jāni* 'wife,' Gk. γυνή, Goth. *kwēns*.

ε occurs in Greek in place of original *ē*—νέω 'spin,' Goth. *nēþla* 'needle.'

ē, in Latin, is spelt *ae* and *oe*, as *praelum* beside *prēlum* 'wine-press,' and *foetus* beside *fētus*.

Perhaps owing to a following *i* or *ī*, *ē* is in Latin also represented by *ī*, e.g., *delīniō* and *delēniō*, *subtīlis* for *subtēlis*, from *tēla* 'web.'

In Gothic, *ē* was sometimes spelt *ei* (arguing closeness)—*kweins* beside *kwēns*. Sometimes, before vowels, an *aì* (*ay*) appears for I.E. *ē*—*saian* 'sow' (L. *sēmen*), *waian* (Gk. ἄ(*F*)ημι).

In Anglo-Saxon *ǣ* represents Teut. open *ē* (sometimes for distinctness written *ǣ*). The Old High German representation is *ā*, and it is doubtful whether A.S. *ǣ* has passed through *ā* to its present state, or whether it represents the Teut. long *e*-sound. There is another long *e*-sound, rather rare in its occurrence, close in quality, which is represented in Anglo-Saxon by *ē*, in Old High German by *ea*, *ia*, *ie*. This, like the first, is represented in Gothic by *ē*. Brugmann says that this close *ē* can hardly come from I.E. *ē*. For an example of this sound take Goth. *hēr*, A.S. *hēr*, O.H.G. *hear*, *hiar*, *hier*.

Teut. *ǣ* appears in Anglo-Saxon as *ō*, before nasals—A.S. *mōna* 'moon,' Goth. *mēna*, O.H.G. *mano*, Gk. μήνη. This change, in Anglo-Saxon, of Teut. *ǣ* (West Germanic *ā*), into *ō*, will be a parallel to the change of *a* into *o* in the two varieties *mann* and *mǫnn*. Perhaps it was on the passage through *ā* to *ǣ* alluded to above that the nasalisation took place.

This *ō*, the product of nasalisation, was in Anglo-Saxon umlauted to *ē*, as in *cwēn* 'woman' (Teut. *cwōniz*), *wēn* 'hope' (Goth. *wēns*, O.H.G. *wān*), *hēla* 'heel' for *hōhila* (cp. A.S. *hōh* 'hough').

I.E. *ē* also appears in Anglo-Saxon, and in Teutonic generally, as *i*—A.S. *wind*, Goth. *winds*, O.H.G. *wint* (L. *vēntus*, Gk. ἄ(*F*)ημι) (*u̯ēnto-*). Sometimes I.E. *ē* is shortened in Teutonic to *e*, before liquid and consonant. This, in Anglo-Saxon, is broken to *eo*, or, with *i*-umlaut, appears as *ie*, *y*—A.S. *heorte*, Goth. *haírtō* (*aí* = broken *e*), O.H.G. *herza* (Gk. κῆρ) (*kērd-*).

o: Sk. *ashṭāú*, Gk. ὀκτώ, L. *octō*, Goth. *ahtáu*, A.S. *eahta*, O.H.G. *ahto*.

Short *o* in Sanskrit appears as *a*. In open syllables *ā* appears—*pā́dam* (Gk. πόδα). Before *a*, representing original *o*, palatalisation did not take place, as it did before *a*, representing original *e*.

For example of *υ* occurring in Greek dialectically for *o* take φύλλον (L. *folium*), νύξ (L. *nox*, Goth. *nahts*), μύλη 'mill' (L. *mola*, Goth. *malan* 'grind').

In Latin, *o* appears as *u*, *e*, *i*. In unaccented syllables, *u* is found in place of the older *o*—*fīlius* (*fīlios*), but the *o* is kept before *r* = *s*, and after *u*, *u̯*—*temporis* (*tempozis*), *mortuos*, *vīvos* (forms in *-us* late). *u* also occurs in accented syllables, especially before nasals—*uncus* 'hook' (Gk. ὄγκος), *uncia* 'ounce' (Gk. ὄγκος 'bulk'), *umbō* 'boss' (Gk. ὀμφαλός 'navel'), *unguis* 'nail' (Gk. ὄνυξ).

e replaces *o* finally—*sequere* (Gk. ἕπε(σ)ο), *ille*, *iste* (**ollo*, **esto*), and in unaccented closed syllables, or after *i*—*hospes*, for *hostipes* (*potis*), *societas* (*socio-*).

i also represents *o*, in unaccented syllables—*īlicō* (*ín*(*s*)*locō*) 'sur-le-champ, auf der Stelle.'

vo sometimes becomes *ve*—*venia* (Gk. ὀνίνημι), *vester* and *voster*, *vertō* and *vortō*.

Some say that *ov* may pass into *av*—*cavus* (Gr. κόοι 'excavations'), *avis* (cp. Gk. ὀ(*F*)ιωνός, 'bird').

In Teutonic, *o* was replaced by *a* in all accented syllables, but probably remained extant in unaccented syllables before nasals.

In Anglo-Saxon, this vicarious *a* underwent all the changes of real *a*, viz., the change to *æ*, the breaking to *ea*, the passage by umlaut to *e*—*hæsel* (L. *corylus*), *heals* (L. *collum*), *mȩne* 'neck-chain' (L. *monīle*). For *e* in Old High German, the result of umlaut, representing *o* (O.H.G. *a*), take *nȩstila* 'band' (L. *nōdus* for *nozdus*).

ō: Sk. *pātram* 'vessel,' Gk. πῶμα 'lid,' Goth. *fōdr* 'sheath,' A.S. *fōdor*, O.H.G. *fuotar* 'case' (*G. futter*).

Sanskrit replaces *o* by *a*.

In Latin a cognate is wanting. For original *ō* in Latin, take as example *flōs* (A.S. *blōstma*). *ō* appears sometimes in Latin as *ū*—*fūr* (Gk. φώρ), *ūlna* (Gk. ὠλένη).

Both *ō* and *ā* were represented in the Teutonic dialects by *ō*, and underwent the same changes. As example of *i*-umlaut of original *ō* in Anglo-Saxon, take *dēman* 'deem' (A.S. *dōm* 'doom').

For the genesis of *uo*, as representative of *ō* in Old High German, see above under *ā*.

ō final did not pass into *uo*, but appears in Old High German as *u*, and in Gothic as *a*—O.H.G. *biru*, Goth. *baíra* (Gk. φέρω). In Anglo-Saxon, the *-u* was replaced by the optative termination *-e*.

i : Sk. *vidhávā*, Gk. ἠ(Ϝ)ίθε(Ϝ)ος 'batchelor,' L. *vidua*, Goth. *widuwō*, A.S. *widewe*, O.H.G. *wituwa*.

In Latin, *e* appears for *i*, before *r* (*s*)—*serō* (**sisō*) and finally—*ante* (Gk. ἀντί). *i* final also drops —*ad* (Sk. *ádhi*).

I.E. i becomes *e* in Anglo-Saxon and Old High German, before an *a* or *o* of the following syllable, unless conserved by an intermediate *i* or *i̯*—A.S. *nest*, O.H.G. *nest* (L. *nīdus* for *nizdos*). This was not a very common change, and its wording for Teutonic is not quite certain. Levelling under related *i*-forms also interfered with its operation. It occurred most regularly before *r* and *h*—A.S. *wer* 'man' (E. *werwolf*), O.H.G. *wer* (Teut. *wiraz, wiroz*) (G. *werwolf*), cp. L. *vir*.

This *e* was of course changed to *i* (and, like original *i*, broken to *e*, written *aí*, before *r* and *h*) in Gothic.

ī : L. *suīnus*, Goth. *swein*, A.S. *swīn*, O.H.G. *swīn*.

For Sk. *ī*, take *pītás* 'drunk' (cp. Gk. πῖθι), for Gk. ι, take ἶς (L. *vīs*).

u : Sk. *yugám*, Gk. ζυγόν, L. *jugum*, Goth. *juk*, A.S. *geoc* (*juc*), O.H.G. *joh.*

In Gk. ὀλολύζω (L. *ulula* 'screech-owl'), ο appears for υ. υ in Greek had once the sound of *u* (ου), and this sound was kept for many generations in certain dialects—Bœot. λιγουρός = Attic λιγυρός.

There is a change (dissimilation) of υ to ι in Greek before following υ—πινυτός for πυνυτος (Sk. *punā́mi* 'I clean.')

Before labials and *l*, *u* in Latin becomes *i*, or rather something between *i* and *u* (i.e. *ü*)—*libet* and *lubet*, *lacrima* and *lacruma.*

After *l* and *r*, *u* in Latin came to be written *v*—*mīluus* 'kite' and *mīlvus*, *silua* and *silva.* It was dropt finally—*red-* (for *redu*, cp. *indu.*)

The *aú* that appears in Gothic is due to breaking—*daúr* (Gk. θύρα). *u* was broken to open *o* before *r* and *h*, and this written *aú.* *i-* umlaut produces *y* in Anglo-Saxon—*cyssan* 'kiss' (L. *gustō*). The *eo* of *geoc* is due to the influence of the palatal.

I.E. *u* appears in Anglo-Saxon and Old High German as *o*, before a syllable containing *a* or *o*, unless conserved by a following nasal + consonant, or an intermediate *i* or *i̭*—A.S. *oxa*, O.H.G. *ohso* (Sk. *ukshā́*). This *o* was changed to *u* in Gothic and broken to *aú* (open *o*)—*aúhsa.*

West Germanic *o* usually remains in Anglo-Saxon, but before nasals *u* is found—*genumen* 'took,' O.H.G. *ginoman*, A.S. *guma* 'man' (E. (*bride*)*g*(*r*)*oom*), O.H.G. *gomo* (G. (*bräuti*)*gam*), Goth. *guma.* There are other examples of *u* in Anglo-Saxon—*fugol* (O.H.G. *fogal* (G. *vogel*), Goth. *fugls*), *rust* (O.H.G. *rost*).

ū: Sk. *mū́sha*, Gk. *μῦς*, L. *mūs*, A.S. *mūs*, O.H.G. *mūs* (G. *maus*). Just as *υ*, at first pronounced *u* (*ου*), retained that sound dialectically, so *ῡ* at first pronounced *ū* (*ου*) retained that sound dialectically—Bœot. Εὔθουμος = Attic Εὔθῡμος.

The *ου* in *οὖθαρ* (L. *ūber*) is said to be due to a desire to avoid the double aspiration that the regular **ὖθαρ* would present.

There is a change (dissimilation) of *ῡ* to *ῑ* in Greek before a following *υ*—*φῖτυ* 'twig,' cp. *φύω*.

For an example of *ū* in Gothic take *fūls* 'rotten', A.S. and O.H.G. *fūl*, (Gk. *πύθω*, L. *pūteō*).

The *ȳ* in Anglo-Saxon is caused by *i*-umlaut—*mȳs* 'mice' (Teut. *mūsiz*, *mūsez*).

ai: Sk. *ḗdhas* 'fire-wood,' Gk. *αἴθω* 'burn,' L. *aedes* 'hearth,' A.S. *ād* 'pyre,' O.H.G. *eit* 'pyre.'

a + *i* give in Sanskrit, by ordinary guṇa, *ē*. Since *e* and *o* are written *a*, these followed by *i* will also give *ē*.

Original *ai* in Latin was sometimes written *ē*—*haedus* and *hēdus* (Goth. *gáits* 'goat'), *saeculum* and *sēculum*. *ae* was also *misspelt oe*, as in *coelum*, *poenitet*, *coena*, *moereō*, &c.

In originally unaccented syllables *ai* became *ī*—*inquīrō* (*quaerō*), *parricīdium* (**parrus* 'open' (*parrēre*), cp. *parra* (*avis*) 'bird of omen,' and *caedō*). Notice also its representation by *a* and *e* in the following words—*aēneus* (**aësneus* (**ái̯es-**)), *prehendō* (*prae*, *hendō*).

ai became *ā* in Anglo-Saxon—the second element, says Sweet, became *e* and was then absorbed—and this by *i*-umlaut passed into *ǣ*—*dǣl* 'portion,' belonging to the *i*-declension, (Goth. *dáils* O.H.G. *teil* (G. *theil*).

In Old High German *ai* became *ē* before *r*, and finally—

mēro 'greater' (Goth. *máiza*), *wē* 'woe' (Goth. *wái*), elsewhere *ei—stein* (Goth. *stáins* 'stone').

āi: This is called the vṛddhi diphthong in Sanskrit. *ēi* and *ōi* have the same representation.

The diphthong appears as a case-ending of the dat. sing. of *ā* stems—Sk. *su*(*v*)*apatyāi*, nom. *su*(*v*)*apatyā́* 'having a beautiful posterity,' Gk. χώρᾳ, O.L. *Matutā* '*Matutae*,' Goth. *gibái* 'to a gift.'

āi is said to appear as *ā* in Old High German *stān* 'stand.'

ei: Sk. *tráyas* (**trei̯es*), Gk. τρεῖς, (*τρε(i̯)ες), L. *trēs* (**trei̯es*), Goth. *þreis* (**þrii̯*(*i*)*z*, **þrei̯ez*), A.S. *ðrī*, O.H.G. *drī*,

Short *e* appearing as *a* in Sanskrit, *ei* will have the same representation as *ai*, i.e., *ē—bhḗdāmi* 'I cleave' (Goth. *beitan* 'bite'). This *ē* was resolved into *ay* before vowels.

In Latin *ei* remains in *hei*, and on oldest monuments—*deicō*, *feidō*, but soon became an open *ī—dīcō*, *fīdō*.

It also appears as *ē—lēvis* 'smooth' (Gk. λεῖ(*F*)ος). Before a vowel it appears as *e—eō* 'I go' = *ejō* (Gk. εἶμι).

ēi: For example in Sanskrit, take *āís* 'thou wast going,' impf. stem *ēi̯* (**ei̯**- 'go'). The diphthong was an infrequent one in Indo-European. It is seen in Gk. πλεῖστος, Norse *fle*(*i*)*str* 'most' and *fleiri* 'more,' I.E. *plē-i̯s-* for *plē-is-*.

Wharton's explanation of *plūs* takes us back to this diphthong :—*plūs* = *plǖs* = *pleus* from *plē-us*, *plē-jus*.

oi: Sk. *tḗ* 'they,' Gk. τοί, L.(*is*)*tī*, Goth. *þái*, A.S. *ðā*, O.H.G. *dē*.

This diphthong will naturally in Sanskrit have the same representation as *ai*, i.e., *ē*.

For *oe* in Latin, take as example—*foedus* 'treaty' (Gk. πέποιθα), for *ū* (through *ǖ*)—*ūnus* (O.L. *oinos*), for *ī*—*fīdus* (Ennius) for *foedus*.

Wharton says that pretonic *oi*, unless saved by analogy, appears as *ae*—*caecus* 'blind' (Gk. κοικίλλω 'gape about' Goth. *háihs* 'one-eyed').

oi has in Teutonic the same representation as *ai*, and undergoes the same changes. For *ǣ* in Anglo-Saxon, the *i*-umlaut of *ā* (orig. *oi*), take as example *clǣg* 'clay' (Gk. γλοιά L. *glūten*), and for *ei* in Old High German, take *meidem* 'stallion' (rather M.H.G.)—('ein schon lange veraltetes Wort,' says Weigand) (L. *mūtō* 'penis').

ōi: Seen in the instrumental plu. of *o*-stems—Sk. *áśvāis*, Gk. ἵπποις = ἵππωι̯ς. In Latin, this diphthong occurs in *oloes* 'illis,' from original *-ōi̯s*. Final *-ōi̯* passed into *-ō*.

au: Gk. παῦρος, L. *paulus paucus*, Goth. *fawái*, plu. (**fáus*, sing.), A.S. *fēa*, O.H.G. *fōhem*, dat. plu.

a + *u* give in Sanskrit, by ordinary guṇa, *ō*. Since *e* and *o* are written *a*, these followed by *u*, will also give *ō*. For example of *ō*, take *ṓjas* 'power' (L. *augeō*.)

In Latin, *au* in originally unaccented syllables appears as *ū*—*inclūdō* (*claudō*), also as *oe* or *ē*—*oboediō* and *obēdiō* (*audiō*). *au* in accented syllables is also spelt *ū*—*frūstum* (Gk. θραύω 'break'), and *ō*—*plōstrum* and *plaustrum*, *Clōdius* and *Claudius*.

au in Anglo-Saxon appears as *ēa*, of which the *i*-umlaut is *īe*, *ī*—*hīewð* and *hīwð*, 3rd sing. pres. ind. of *hēawan* 'hew.' *ēa* is sometimes written in oldest texts *æo*, *eo*, *æo*. Of the Anglo-Saxon transformations of this diphthong Sweet gives the following explanation:—"The *a* of *au* became *æ*, in accordance with the general tendency of the language, the second element being opened, and finally unrounded. It is probable that the first element remained *æ* throughout the Old English period." The first vowel of this diphthong has accordingly the value of long *æ*, viz., long low-front-wide. For the quantity of the first vowel in *ēa*, see below under *eu*.

au in Old High German passed through *ao* into *ō*, before *d*, *t*, *ȥ*, *s*, *n*, *r*, *l*, and *h*; before other consonants, and as final, it passed in the ninth century into *ou*—*ouga* 'eye' (Goth. *áugō*).

āu : Sk. *nāús*, Gk. ναῦς (orig. νᾱυ̯ς), L. *nāvis*.

āu is called the vṛddhi diphthong in Sanskrit. *ēu* and *ōu* have the same representation.

āv appears in Latin before a vowel. Before a consonant *au* is found—*gaudeō* (*gāvideō*).

āu appears as *au* in Gothic—*sauil* neut. 'sun' (Gk. ἠέλιος for σᾱϝελιος (p. 115), L. *sōl*, Norse *sōl* fem., and a sometimes quoted A.S. *sōl*. By the bye *claudō* for *clāu̯idō* originally had *āu*, cp. *clāvis* and κληϜίς.

eu : Gk. γεύομαι 'taste,' L. *gūstō*, Goth. *kiusan* 'choose,' A.S. *cēosan*, O.H.G. *kiusu* 'I choose' (G. *kiesen*).

There is no short *e* in Sanskrit. It is represented by *a*, consequently *eu* will have the same representation as *au*, i.e., *ō*—*bṓdhāmi* 'I perceive,' Gk. πεύθομαι.

eu appears in Latin only in interjections—*heu*, otherwise as *ū*. Note also the representation *ī* (through *ü*) — *līber* (Gk. ἐλεύθερος).

e being replaced by *i* in Gothic, *eu* will naturally appear as *iu*. With regard to A.S. *ēo* (*eo* and *ēa*, *ea*) it will be well to quote Sweet:—"That the difference between *ea eo*, and *ēa* *ēo* was one of quantity, is proved beyond doubt by the accents, the metre, and the whole history of the language. It is certain that the stress was not originally on the second element, for *au* and *eu* were certainly accented *áu*, *éu*. The length must have been either on the first element, or else distributed over both. The former seems most probable. The lengthening probably began by an exaggeration of the glide between the two elements."

In Old High German, *eu* became *eo*, later *io*, when followed by a syllable containing *a* or *o*—*biogan* 'bend' (G. *biegen*), otherwise as *iu*.

ēu : Sk. *dyāús*, Gk. Ζεύς (orig. Ζηυ̯ς).

The two letters forming this diphthong probably did not often occur in the same syllable in the primitive Indo-European language.

ou : Sk. *bubṓdha* 'he has waked,' Goth. *báuþ*, A.S. *bēad* 'bade,' O.H.G. *bōt*.

In Sanskrit, there is no short *o*. *o* is represented by *a*, consequently *ou*, like *eu*, will have the same representation as *au*, i.e., *ō*. *ou* remains in Greek—σπουδή (**pstou̯d-**). Compare σπεύδω (**pseu̯d-**), and L. *studeō* (**pstud-**). Note κο(*F*)έω 'I perceive' (A.S. *scēawian*).

ou got mixed in Latin with *eu*, but can still be distinguished in Oscan, e.g., *castrovs*, gen. sing. from stem *castru-* 'fundus.'

ou appears in Latin as *ū*—*fūdit* (Goth. *gáut* 'poured,' A.S. *gēat*) ; *lūcus* (A.S. *lēah*—E. *lea*), as *ō*—*rōbīgō* and *rūbīgō* (**rou̯dh-**, cp. *rūfus* 'red'). Both *ū* and *ō* are shortened in *cloāca* and *cluāca*.

ou originally pretonic appears as *au*—*auris* = *ousís* (Gk. οὖς = οὖσ-ας, Goth. *áusō*, A.S. *ēare*). Note also in unaccented syllable *-u-* from *-ou̯-* —*dēnuō* (*dē novō*).

In Gothic, as in Teutonic generally, *o* becoming *a*, *ou* appears as *áu*. It appears in Anglo-Saxon as *ēa*. See above under *ēa*. *ȳ* is one of the varieties (*īe*, *ī*) of the *i*-umlaut of *ēa*—*hlȳstan* ‘*listen*’ (**kloṷ**) ; cp. Sk. *śru*, Gk. ϰλύω, L. *clueō* (**klu**) ; Gk. ϰλέ(*F*)ος (**kleṷ**).

For an example of *ou* in Old High German take—*scouwōn* (G. *schauen*) (A.S. *scēawian*, Gk. ϰο(*F*)έω, (θυο)σϰό(*F*)ος ‘priest,’ L. *caveō*, Sk. *kavís* ‘wise’).

ōu : The two letters forming this diphthong probably did not very often occur in the same syllable in Indo-European. The Sk. *ashtāú* (I.E. *oktōṷ*) shows that the final diphthong in the word was long, cp. L. *octāvus* (**octōvos*). For example of *ōu* in Greek, take βοῦς (orig. βōṷς, Sk. *gāús*).

CHAPTER III.

SOUND RELATIONS IN INDO-EUROPEAN—SEMIVOWELS, SPIRANTS, CONSONANT-VOWELS, LIQUIDS, NASALS.

THE sound-correspondences to be treated of in this chapter are those that derive from the sounds of the parent speech represented by the symbols *i̯*, *j*, *u̯*, *v*, *s*, *z*, *r*, *l*, *m*, *n*, *ṛ*, *ḷ*, *ṃ*, *ṇ* :—

I.E.	Sk.	Gk.	L.	Goth.	A.S.	O.H.G.
i̯	y	‘	j, i	j	i, g	i, j
j	y	ζ	j	j	i, g	j
u̯	v	*F*, ‘	v, u	w	w	w
v		See under u̯				
s	s, sh	σ(ς), ‘, ’	s, ɹ	s, z	s, ɹ	s, r
z		See examples				
r	r, l	ρ	r	r	r	r
l	r, l	λ	l	l	l	l
m	m	μ	m	m	m	m
n	n	ν	n	n	n	n
ṛ	ur, ir, ṛ	αρ, ρα	or	aúr, ru	ur	ur
ṝ	ūr, īr	ορ, ρω	ar, rā	Teut	ar	
ḷ	ul, (il), ur	αλ, λα	ol	ul	ul	ul
ḹ	ūr, īr	ολ, λω	ar, (al), lā	Teut.	al	
ṃ	am, a	αν, α	em	um	um	um
ṃ̄	ā	ᾱ				
ṇ	an, a	αν, α	en	un	un	un
ṇ̄	ā	νᾱ, ᾱ, νη	an, nā			

i̯ : Sk. *yūyám*, Gk. ὑμεῖς, Goth. *jus*, A.S. *iuih*, (North. accus.), O.H.G. *iuwih* (acc. plu.).

It is difficult sometimes, owing to the fact that the sounds have run together in most languages, to distinguish manifestations of the semivowel *i̯*, from manifestations of the spirant *j*, unless Greek aid us, where initially, the latter appears as ζ, the former as ʽ. If Greek lack a cognate, then we have to search among available cognates, for sound-relations, that will help to settle the question. For example, a comparison of Sk. *yánti*, 3rd plu., and *ithá*, 2nd plu. of **ei̯**- 'go,' proves that the *y* is by origin *i̯*. The coincident occurrence of *i* stamps *y* the semivowel. Again, the ablaut-relation between Sk. *tráyas* (**trei̯es**-, strong grade), nom. plu., and *trishú* (**trisu**-, weak grade), loc. plu., reveals the semivocalic character of the *y* of the first form.

i̯ appears initially (example above), between vowels, after consonants, before consonants (when preceded by *a*-, *e*-, and *o*-vowels), and finally (as second element of diphthongs). Take as examples—Sk. *tráyas* &c.—see above under **ei** ; Sk. *dyāús* 'sky,' Gk. Ζεύς (δi̯ευς, δi̯ηυς) ; Sk. *véda*, Gk. Ϝοῖδε. Goth. *wáit*, A.S. *wāt*, O.H.E. *weiʒ*, (**u̯oi̯de**) ; Sk. *té*, Hom. τοί &c. —see above under **oi**.

ai̯, **ei̯**, **oi̯**, **āi̯**, **ēi̯**, **ōi̯**, originally pure diphthongs, gradually suffered change, generally in the direction of coalescence. The long varieties shortened the first element when before consonants.

y in Sanskrit was probably everywhere semivocalic.

In Greek initial ʽ was reached through an intermediate voiceless *i̯*. Between vowels, *i̯* dropped out, unless the previous vowel was *u* — δέος (δϜει̯ος), τιμάω (τιμαi̯ω), φιλέω (φιλει̯ω), δηλόω (δηλοi̯ω), but Lesb. φυίω (**bhui̯ō**).

i̯ following postvocalic *s* and *u̯* palatalised them out of existence, and then formed a diphthong with the preceding vowel—*τοσι̯ο* into *τοισο* = Hom. *τοῖο* (Sk. *tásya*); *εἴην* from *ἐσι̯ην*, from *σι̯ην* (Sk. *syā́m*, weak grade—Greek has strong grade from the analogy of forms with strong *ἐσ-*; L. *siem*, *siēs*, *siet* (**si̯ēm**), weak grade like Sanskrit—the *ī*, proper to the plural optative, ultimately ousted the *iē*, proper to the singular); *ϰλαFι̯ω* into *ϰλαιFω*, into *ϰλαίω*. The *αιF* of the last word became *ᾱ* in Attic before *e-*, *i-*, and *a-* sounds, giving *ϰλαίω*, *ϰλᾱ́εις*, *ϰλᾱ́ει*, *ϰλαίομεν*, &c.; the *ᾱ* then pushed its way into all persons, producing the double forms *ϰλαίω* and *ϰλᾱ́ω*.

After *n* and *r*, a following *i̯* disappears, after causing compensation in the previous syllable — *ϰτείνω*, Lesb. *ϰτέννω* (*ϰτενι̯ω*); *φθείρω*, Lesb. *φθέρρω* (*φθερι̯ω*). Notice also *βαίνω* (*βανι̯ω*), L.*veniō* (**gᵘ̯ṇi̯ṓ**(-ṃ-)).

i̯ following λ is assimilated—*ἄλλος* (*ἀλι̯ος*).

The combination *pi̯* gives in Greek *πτ* — *τύπτω* (*τυπι̯ω*); *πτύω* ((*σ*)*πι̯ῡ*), Lith. *spiáu-ju*, L. *spuō*.

ki̯, **ghi̯**, **kᵘ̯i̯**, **ghᵘ̯i̯** give for result a sort of geminated spirantal sound which medially is sometimes approximately represented by *-ττ-*, sometimes by *-σσ-*, but initially, always by *σ-*. It used to be said that the *i̯* dentalised the guttural into *τ*, and that this letter then assimilated *i̯*. *ττ* appears in Boeotian, Thessalian, and Attic, *σσ* in the other dialects; the latter representation is said to be the older.

Examples are *ἥσσων ἥττων* (*ἡϰι̯ων*), compare *ἥϰιστα*, L. *sēcius* ‘otherwise,’ perhaps equalling *ἧσσον* (*ἡϰιον*) (the form *sequius*, said however to lack authority, would seem to point to a velar, *sētius* = *sēctius* is called a comparative formation (compare *diutius*), with the *c* dropped, as *Quintius* for *Quinctius*);

ἇσσον (**angh**-), compare ἄγχι; πέσσω, πέττα (**peku̯**-), compare L. *coquō*; ἐλάσσων ἐλάττων (**ḷghu̯**-), compare ἐλαχύς.

For this sound occurring initially, take as example Hom. σεῦε = ἔσσευε (Sk. *cyu* (*chyu*). 'move').

ghi̯ when initial, results in χθ—χθές (**ghi̯es**-), Sk. *hyás*, L. *herī*, Goth. *gistra-dagis*, A.S. *geostra* (*eo* = *o*-umlaut of *e*). O.H.G. *gestaron* (G. *gestern*).

ti̯ dhi̯ became σσ; this after consonants was reduced to σ, and in other surroundings, though σσ remained in Homer, simplification also gave the same result; dialectically, however, the σσ appears as ττ—ἄσσα, ἄττα for τι̯α (the ν-forms are due to the adoption of the acc. τιν as a new stem in place of τι-) neuter plu. of τίς. In the last word, the initial α is due to the frequent conjunction of this form with other plurals in α, from which by wrong division it abstracted the α, e.g., ὁποῖά/ττα was divided ὁποῖ' ἄττα, compare ἐκεινοὕνεκα (a crasis of ἐκείνου ἕνεκα), which through maldivision gave rise to the ghost-word οὕνεκα, also Sayce's explanation of αἶα, as due to a reading of πατρίδα/γαῖαν, as πατρίδα γ' αἶαν. Consult index, under *newt* and *nickname*, for similar results in English. Resuming examples of **ti̯**, **dhi̯**, we have πᾶσα for παντι̯α; μέσσος, Attic μέσος (Sk. *mádhyas*).

si̯ also gives σσ and ττ—κασσύω, καττύω for κατσι̯ῡι̯ω, L. *suō* for *sūō*, Goth. *siujan*, A.S. *sēowan*, O.H.G. *siuwan* (G. *säule*, 'Ort des Schuhmachers') (Sk. *syū*-).

Note the different results in Greek of μέσσος, μέσος (suffix -*i̯o*-), and of πάτριος (suffix -*ii̯o*-).

di̯, **gi̯**, **gu̯i̯** give as result a sound that is represented by the letter ζ (Lesb. σδ)—πεζός 'on foot,' compare πέδη 'fetter'; ἅζομαι 'reverence,' compare ἅγιος (**i̯ag**-); νίζω 'wash,' compare νίπτω with labialised velar (**neigu̯**-).

Note the different results in Greek of ῥέζω 'work' (reg.

ῥαζω for *Ϝραγι̯ω*), Goth. *waúrkjan*, O.H.G. *wurchen* (G. *wirken*) (**u̯ṛg-**), with suffix *-i̯ō*, compare Gk. *ἔργον* (*ἔρδω* = *u̯ergi̯ō*), A.S. *wiercan* (**u̯erg-**), and of *ἰδίω* (**su̯īd-**), L. *sūdor*, A.S. *swāt*, O.H.G. *sweiȥ* (G. *schweiss*) (**su̯oi̯d-**), with suffix *-ii̯ō*.

i̯ appears in Latin initially as *j*—*jecur* (cp. Gk *ἧπαρ*); after a consonant it preserved consonantal force, only if said consonant had disappeared—*Jovis* (Sk. *dyāús*), *āiō* (**aghi̯ō**). If the consonant remained, the *i* had vocalic force—*medius* (Sk. *mádhyas*), *veniō* for *veni̯ō*, *socius* (**sokᵘ̯i̯os**), compare *sequor* (**sekᵘ̯-**).

Between vowels *i̯* drops—*aer-* (*aes*, *aeris*) (Sk. *áyas* 'iron'), *stō* (*stāi̯ō*), *moneō* (*monei̯ō*), *audiō* (*audii̯ō*). An *i̯* has also dropped in *spuō* (**spi̯u-**), *suō* (Goth. *siujan*), *herī* (**ghi̯es-**).

Allusion has been made to **ai̯**, **ei̯**, **oi̯**, **ā̆i̯**, **ē̆i̯**, **ō̆i̯**, under these respective heads. The first element of the long varieties is shortened when a consonant follows.

In Teutonic, *i̯* and *j* have the same representation. For an example of *i̯* appearing medially in Gothic as *j*, take *midjis* (Sk. *mádhyas*), *siujan* (Gk. *κασσύω* 'stitch,' L. *suō* **si̯ū-**).

After a short vowel there is a noticeable representation of *i̯* in Gothic, viz. *-ddj-*(Norse *-ggj-*,*-gg-*)—*iddja* 'I went' (Sk. *áyām*), A.S. *ēode* (*ija* + *de*, pret. suff.); *twaddjē*, gen., Norse *tweggja*, A.S. *twęg*(*e*)*a*, O.H.G. *zweijo*. In West Germanic, an *i* was generated, which formed a diphthong with the preceding vowel, or gave *ī*, if the preceding vowel was *i*.

A *w* occurs in place of an *i̯* in Anglo-Saxon and Old High German—A.S. *sāwan*, O.H.G. *sāwan* (*sāan sahan*), *saian* (*i* for *i̯*), (Goth. *saian*, **sēi̯ō**); A.S. *blōwan*, O.H.G. *bluojan*, *bluowan* (Teut. *blōi̯anan* —L. *flōs*). It is supposed that after *i̯* had in part dropped out before guttural vowels, *w* was foisted in as glide. On the establishment of the types, interchange would ensue, and one or other type be generalised. This is Brugmann's explanation.

i̯, for which there was no special sign in the manuscripts of Anglo-Saxon and Old High German, was represented initially, especially before *u*, by *i*—A.S. *iung* (*geong*), O.H.G. *iung*. It is not known whether originally *i* or *j* appeared in this word. Medially *i* is also found, but perhaps stands for *ij*.

In A.S. *ār* 'brass,' O.H.G. *ēr* (Goth. *aiz*, Sk. *áyas*, L. *aes* (**ái̯es-**), we have an example of the dropping of *i̯*. It is also dropped before *i*.

In Anglo-Saxon, palatal *g* is a representative of *i̯*—*gif* 'if' (Goth. *jabai*); *g* is also a representation in the same language—*cīegan* 'call,' a *-ja-* verb (*īe*, umlaut of *ēa*) (**gu̯ou̯-**), Gk. *βοῦς*.

In Old High German, *g* with sound of English *y* in *yet*, also occurs as representative—*gęnēr* (*jęnēr*).

Original *i̯* can sometimes be traced by gemination—A.S. *syllan* 'give,' O.H.G. *sęllen* (Goth. *saljan*); A.S. *ęcg* 'edge' (L. *aciēs*).

In Anglo-Saxon, the fact of umlaut argues the original presence of *i̯*—*dēman* 'deem' (Goth. *dōmjan*).

With reference to Gothic *siujan* (L. *suō*, Gk. *ϰασσύω*), it is conjectured, that in forms, where the *i̯* of a formative suffix followed hard on a previous *i̯*, the first was lost by dissimilation, even in the Indo-European period, but being preserved in another setting, might reassert itself even in conditions where it had originally gone under.

i̯ before a consonant, and after long vowels, was dropped in the primitive language—compare Sk. *rā́yas* plu., with Sk. *rā́s* sing., L. *rēs*.

j : Sk. *jugám*, Gk. ζυγόν, L. *jugum*, Goth. *juk*, A.S. *geoc* (*iucian* 'to yoke'), O.H.G. *joh* (G. *joch*).

Gk. ζ argues the spirant. The existence of the spirant can best be demonstrated when it occurs initially. It is said, however, that κεῖται may be attached to a root **kej**-. Gk. ζυγόν, it should be mentioned, had originally for initial sound not *j*, but *di̯* (cp. dialectic form δυγόν), which fell together with *j* in primitive Greek.

It might be well to give another example of original *j*—Sh. *yásāmi* 'bubble,' Gk. ζέω, A.S. *gist* 'yeast,' O.H.G. *jesan* 'ferment' (G. *gären*) (**i̯es**-).

Another proof of spirantal *i* or *j* is worth mentioning:—When *y* is spirantal in a Sanskrit verb, it still remains in reduplication, whereas, when the *y* is semivocalic in origin, a weak-grade form of the verb is found, beginning with *i*, e.g., *i* appears in *iyā́ja*, perf. of *yaj* 'sacrifice' (Gk. ἅγιος, ἅζομαι), instead of *ya*-. This change of *y* is by Sanskrit grammarians called *samprāsaraṇa* (cp. below under *u̯* and *v*).

In Latin and Teutonic, as in Sanskrit, *i* and *j* fell together.

u̯ : Sk. *śvá́śuras*, Gk. ἑκυρός, L. *socer* (*su̯ecer*), Goth. *swáihra*, A.S. *swēor* (*sweohor*), O.H.G. *swehur* (G. *schwäher*) (**su̯ékuro**-).

v : Sk. *vásē* 'clothe,' 1 sing. pres. ātm., Gk. ἕννῡμι, L. *vestiō*, Goth. *wasjan* 'clothe,' A.S. *węrian* 'wear,' O.H.G. *węrian*.

It is usually impossible to tell to which of the two sounds, semivowel or spirant, a sound under consideration has to be referred. If, as in the case of *i*, *u* alternates with the vowel *u*, we may be sure, that in the given case, its origin is semivocalic. For example in Sk. *cinvánti* (**kᵘinu̯ṇ́ti**), 3 plu.

pres., and Sk. *cinuthá* (**kᵘ̯inuté**), 2 plu. pres. (**kᵘ̯ei̯-** ‘set in rows’), *v* alternates with *u*, a fact which argues an original *u̯*. Moreover, and it will be remembered that this also held good in the case of *i̯*, if there subsist certain ablaut relations between certain sound-groups, and one of the correlates be of a vocalic nature, we are entitled to infer the presence of the semivowel. For example, A.S. *swefn* ‘dream’ (**su̯epnos**, strong grade), L. *somnus* (**su̯opnos**, strong grade), Gk. ὕπνος (**supnos**, weak grade, Greek has generalised the weak grade of certain cases) exhibit a correspondence that, in the circumstances, proves the presence of the semivowel.

In Sanskrit verbs reduplicating with *va-*, e.g., *vṛdh* ‘grow,’ pf. âtm. *vavṛdhḗ* we pronounce for the spirant; in those reduplicating with *u-*, e.g., *vac* ‘speak,’ pf. *uvā́cha* we pronounce for the semivowel. Compare what was said above under *j*.

Initial *u̯* was lost in Sanskrit before *u* and *ū*—Sk. *ū́lvam* ‘caul’ (L. *vulva*) (u̯ḷu̯-); Sk. *ū́rṇā*, L. *lāna* (**u̯ḹn-**), L. *vellus* (u̯ḷn-).

In Greek, I.E. *u̯* appeared as *Ϝ*, which was, as a rule, vocalic and not spirantal in character, sometimes also as υ and β—Æol. αὔως (ἀϜως), Attic ἠώς ‘dawn;’ Æol. βρήτωρ ‘orator.’ The *Ϝ* remained up to historic times, and first disappeared in Ionic-Attic. The disappearance took place both medially (see below), and initially—ἔτος (L. *vetus*). Sometimes, initially, *u̯* is represented by ‘ —ἕλκος (L. *ulcus* (*vulcus*, *velcus*)).*

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* Mr. Darbishire refers this to a root beginning with *s* or *su̯*, holding as he does that *Ϝ* regularly became ’ in Greek. Certain obstinate rough breathings he refers to original *v* and not *u̯*, supporting his contention by facts drawn from Armenian, where, as he seems to make out, the semivowel and the spirant are still distinguishable.

In Latin also, *u̯* drops initially before *ŭ* followed by a consonant, unless that consonant be *l* (except *l*+*c*)—*unda* (**u̯ond-**), Goth. *watō*, A.S. *wæter* (**u̯od-**); also before sonant *l* and *r*—*lāna* (cp. *vellus*), *rādīx* (Goth. *waúrts*) (**ur̥̄d-** and **u̯r̥d-**)); but *verrēs* 'boar,' Gk. ἄρσην (**u̯ers-**, **u̯r̥s-**).

For examples in Sanskrit, Greek, and Latin, of *u̯* between vowels, take Sk. *jīvás*, Gk. βίος, L. *vīvus*, Goth. *kwius*, A.S. *cwic*, *cwicu* (*c* developed before *u*(*w*), E. *quick*, *whit*(*low*) (p. 96)), O.H.G. *quec* (G. *keck*) (**gu̯ī̆u̯os**); Sk. *ávis*, Gk. ὄ(*F*)ις, L. *ovis*, Goth. *awēþi* 'flock,' A.S. *ēowu* 'ewe,' O.H.G. *awi* nom. plu. (G. *aue* 'nur noch mundartlich' Weigand), I.E. **ou̯i-**; Sk. *náva*, Gk. ἐννέα (ἐν νεFα 'nine in all'), L. *novem*, Goth. *niun*, A.S. *nigon*, O.H.G. *niun* (for *niu̯un*, A.S. *g* is a glide, I.E. **néu̯n**); Gk. ἑός, ὅς (σεFος) poss. adj., L. *suus*, O.L. *sovos* (**seu̯os**)—cp. *tuus*, O.L. *tovos*, Gk. τε(*F*)ός, and *dēnuō* for *dē novō*: Gk. ἕ, Goth. *si*(*k*), E. *bu*(*sk*) (**su̯e**), L. *sē* (**su̯ē**); Gk. οἶ(*F*)ος 'alone' (**oi̯u̯os**, strong grade of demonst., rt. **i**)—cp. Gk. οἰνός 'one,' οἰνή 'ace on dice,' L. *ūnus* (*oinos*); Gk. αἰ(*F*)ών, L. *aevum*, Goth. *áiws*, A.S. *āwa* dat., O.H.G. *ēwa* 'long time' (Kluge says that A.S. *ǣw* 'law,' O.H.G. *ēwa* 'marriage' G. *ehe*) are from *aequus*, but *aequus* (*aeviquos*) is perhaps connected with *aevum*); Sk. *devás*, Gk. δῖος, L, *dīvus* (*deivos*), Norse *Týr*, A.S. *Tīw* 'god of war' (E. *Tuesday*), O.H.G. *Zio*. Note the disappearance of *u̯* in Sk. *dyā́m*, Gk. Ζῆν, L. *diem* (**di̯ēm**, cp. nom. **di̯ēu̯s** 'sky').

After a consonant the following may serve as examples:—of **tu̯**: Sk. *catvā́ras*, Goth. *fidwōr* (*hwidwōr*, for *f* see Chapter IV. p. 104), Gk. τέτταρες (κFετFαρες), L. *quatuor*, A.S. *fēower*, O.H.G. *fior* (*ku̯eku̯or-* *ku̯ekur*, the second guttural due to assimilation) (**kᵘetu̯ōr-**, **kᵘetuṛ-**, **kᵘetu̯or-**); of **du̯**: Sk. *dvis*, Gk. *δίς*, L. *bis* (cp. *bellum* = *duellum*); L. *bonus* (*du̯onos*), compare Sk *dúvas* 'a mark of respect'; of **dhu̯**: Sk. *ūrdhvás*, Gk. *ὀρθός*, L. *arduus* (**ṝdhu̯ós**).

Note L. *quartus* (**kᵘtu̯ṝtôs**), Gk. (*π*)*τράπεζα* (**kᵘtu̯ṛ-**). The lost consonant in *τράπεζα* would, being a velar, have appeared as *π*, before *τ*. Compare for loss of initial letter, Sk. (*k*)*túryas* 'fourth.'

For examples of **pu̯**, **bhu̯**, take *νήπιος*, for *νηπϜιος* (cp. *νηπύτιος*); *ὑπερφίαλος*, for *ὑπερφϜιαλος* (*φύω*); *dubius* for *dubhu̯ii̯os*; *-bō*, *-bam*, for *-bhu̯ō* *-bhuām*.

It is not a velar guttural that appears in *equus* (post- class. form owing to the analogy of *equi*—class. form *ecus* or *equos*), but a palatal guttural followed by *u̯*. The root is I.E. **éku̯os**. The cognates are Sk. *áśvas*, Gk. *ἵππος ἴκκος* (?), Goth. *aíhwa-*, A.S. *eoh*. The ʽ in *ἵππος* represents the *ὁ* that so frequently was prefixed in the sentence-life of the word —cp. Fr. *lierre* 'ivy' for *l'hierre*. The *i* of *ἱππος* (I.E. e) is a stumbling-block.

su̯ is thus represented—Sk. *svādús*, Gk. *ἡδύς*, L. *suāvis*, A.S. *swēte*, O.H.G. *suozi*, (**su̯ādu-**); Gk. (*Ϝ*)*έξ* (**su̯eks**), L. *sex*, Goth. *saíhs*, A.S. *seox*, O.H.G. *sehs* (**seks**); Sk. *svásar-*, L. *soror* (**su̯esōr**), Goth. *swistar*, A.S. *sweostor* (*eo* due to *u*-umlaut), O.H.G. *swester* (**su̯estr-**); Sk. *svid* 'sweat,' Gk. *ἶδος*, *ἵδρως* (**su̯ĭd-**), L. *sūdor*, A.S. *swāt* (**su̯oi̯d-**).

Gk. *νϜ*, *ρϜ*, *λϜ* were differently treated, in some dialects becoming *νν*, *ρρ*, λλ—in others, remaining as *ν*, *ρ*, and λ, with compensation-lengthening in previous syllable. In Attic the *Ϝ* simply dropped.

Examples are Lesb. *γόννα*, Ion. *γοῦνα*, Att. *γόνατα* (*γονϜα*);

Ion. *κούρη*, Dor. *κώρᾱ*, Attic *κόρη* (*κορϜᾱ*); Hom. *οὖλος*, Att. *ὅλος* (*ὀλϜος*), Sk. *sárvas*, L. *sollus*.

Enough has been said about *u̯* as second element of diphthong under **au̯**, **eu̯**, **ou̯**, &c. Before consonants, the first element of **āu̯**, **ēu̯**, **ōu̯**, was shortened in Greek. These diphthongs then fell together with the corresponding shorts.

Intervocalic *u̯* drops in Latin before *u*—the borrowed *oleum* and *olīvum* (*ἔλαι(Ϝ)ον*—the *o* is due to an assumed connexion with *oleō*), also after *u*—*puer* and *pover*. *uu̯* however remains after *i̯*—*juvō*. *u̯* following a short vowel, and followed by *i* or *e*, throws off the vowel and becomes vocalised, *au̯* becoming *au*, and *ou̯* becoming *ū* (*ou*), or sometimes *ō*—*auspex* for *avispex*, *ūpīliō* and *ōpīliō* (for *ovipīliō*), *nūndinae* and *nōndinae* for *novendinae*. If *u̯* follows a long vowel or diphthong, it drops altogether—*praecō* 'herald' from *prae*, *vocō*.

After a consonant, *u̯* in Latin sometimes remains—*arvum*; sometimes interchanges with *b*—*ferveō* and *ferbeō*, *helvus*, *gilvus*, and *gilbus*; sometimes is vocalised—*tenuis* (Sk. *tanví* 'stretched'); after *l* it is assimilated—*sollus* (Sk. *sárvas*); it drops after *f* (from *dhu̯*), and in an unaccented syllable after *d*—*fallō* (**dhu̯l̥̄-**, Gk. *θολερός* 'troubled,' Goth. *dwals* 'dull, A.S. *dol*, O.H.G. *toll* (G. *toll*) (**dhu̯ol-**) Wharton), *dis-* 'asunder' (Goth *twis* (*standan*) 'to depart from one').

Finally it is vocalised after loss of *e*—*seu* (*sīve*).

In Teutonic, *u̯* was still a vowel-consonant. This sound remained in Gothic, but in other dialects progressed towards a spirant. In this family, *u̯* is very constant, appearing in all positions. In Old High German, it was apt to disappear after consonants other than *r*, *l*, *s*.

Examples of *u̯* in the Teutonic languages have appeared above. It will therefore only be necessary to mention one or two more of particular interest or significance.

Medially between *u* and *u*, *u̯* is lost in Goth. *juggs* (*juvungas*), A.S. *geong* and *iung*, O.H.G. *jung* (L. *juvencus*, **i̯uu̯ṇkó**).

Before a consonant in Gothic, as we saw above, *w* was written *u*—*kwius* from *kwiu̯*(*a*)*z* (L. *vīvus*—(**gᵘ̯īu̯os**).

Parallel to the representation of *-i̯-* by *-ddj-*, we have *u̯* after short vowels represented by *-ggw-* (Norse *-ggv-*, *-gg-*)—*triggwa* 'covenant' (Norse *tryggr*). In West Germanic a *u* was generated which formed a diphthong with the preceding vowel, or gave *ū* if the preceding vowel was *u*—Goth. *triggws* 'true,' A.S. *trīewe* (*īe* = *ēo* by *i*-umlaut), O.H.G. *triuwi.*

In Teutonic, *nu̯* becomes *nn*, *n*—Goth. *kinnus*, A.S. *ċin*(*n*), O.H.G. *chinni* (Gk. γένυς 'jaw,' L. *genuīnus* 'grinder'); A.S. *ðynne*, O.H.G. *dunni* (Sk. *tanús*, L. *tenuis*—**tṇnú-**).

In A.S. *cuman*, *-u̯u-* (= *wi* = Teut. *we*) appears as *u*—cp. O.H.G. *koman* (*queman*) (Gk. *βαίνω*, L. *veniō*—**gᵘ̯ṃió**).

From A.S. *nigon* (Goth. *niun*, see above), it appears that *g* sometimes represents orig. *u̯*; and A.S. *eoh* (L. *equus*, see above) shews that *u̯*, after becoming final, may be lost.

u̯a from *u̯o*, is, in A.S. *geolo* 'yellow,' O.H.G. *gelo* (gen. *gelwes*, G. *gelb*), L. *helvus*, *gilvus* (**ghᵘ̯elu̯os**) represented by *o.* Compare O.H.G. *ero* 'earth' (L. *arvum*).

s: Sk. *svásā*, L. *soror* (**su̯esōr**), Goth. *swistar*, A.S. *sweostor*, O.H.G. *swester* (G. *schwester*) (**su̯estr-**).

There is no cognate in Greek unless Schrader's suggestion anent ἔορες be adopted, viz., ἔορες = σϝεσορες 'sisters' children,' orig. 'sisters.' In the Teutonic cognates, a *t* is developed between *s* and *r* (see below).

s generally remains in Sanskrit, but passes into the cerebral sibilant *sh*, when immediately preceded by any vowel save *ă*, or when preceded by *k* or *r*, except the *s* be final or followed by *r*—*vishám* (**u̯isóm**, cp. L. *vīrus* (**u̯īsós**)); *snushā́* 'daughter-in-law' (L. *nurus*); *pā́rshnis* 'heel,' Gk. πτέρνα (cp. πόλις and πτόλις), L. *perna* 'ham' (*pernīx* 'swift'), Goth. *faírzna* (*s*, and not *z*, to have been expected, the accent being on first syllable), A.S. *fiersen*, *fyrsn* (*ie*, *y* = umlaut of *ea* the breaking of *e*), O.H.G *fersana* (G. *ferse*) (**pē̆rsnā, -ni**). Note also *shásh* 'six' (L. *sex*).

Before *ś* (palatal sibilant) at the beginning of the next syllable, *s* becomes *ś*—*śváśuras* 'father-in-law' (Gk. ἑκυρός (σϝεκ-)).

sk appears as *ch* (*cch*)—*gáchāmi* (*gácchāmi*) 'I go' (Gk. βάσκω (βάσκ' ἴθι)) (**gu̯ṃskṓ**).

For the general history of the *s* sounds in the Classical and Teutonic languages, it will be convenient to make the surrounding of the sound the principle of classification.

Starting from examples with a vocalic neighbourhood, let there then be set down examples of *s* in the neighbourhood of continuous consonants, followed by examples that exhibit *s* in the company of stops.

s before vowels passes into ʽ in Greek, but remains in Latin and Teutonic—Gk. ἕπομαι, L. *sequor*, Goth. *saíhwan*, A.S. *sēon* (for *seohan*), O.H.G. *sehan* (**seku̯-**); Gk. ὕραξ 'shrew-mouse,' L. *sōrex* (Fr. *souris*); Gk. ἡμι-, L. *sēmi-*, Sk. *sāmi-*, A.S. *sām-* (E. *sand-blind*).

Sometimes ʼ appears, if in the next syllable or the one after, an aspirate, either original or developed from *s*, is met with—Gk. αὕω 'dry' from αὐhω, older αὐhω (cp. fut. αὕσω), and in other cases—εἵρω (= ἐρι̯ω) 'join,' L. *serō*. In ἡμεῖς (Sk. *asma-*), the ʽ is probably due to the analogy of ὑμεῖς (Sk. *yushma-*), and εἱπόμην (for ἐ-(σ)επόμην) takes after ἕπομαι.

Between vowels, *s* disappears in Greek, and generally passes into *r* in Latin—Gk. γένεος, L. *generis*, (Sk. *jánasas*—**gen-**), cp. Goth. *kuni*, A.S. *cyn*(*n*) (*y* = umlaut of Teut. *u*), O.H.G. *cunni* (**gn̥-**), and L. *nāscor* (**gn̥̄-**); Gk. ἦα (Attic ἦ), Sk. *ā́sam* (**ésm̥**). L. *eram* is supposed to represent an unaugmented **ésm̥**. *m̥* should have given *em* in Latin, and the *am* will be owing to the analogy of the usual imperfect ending *-bam*. There is no trace of augment in Latin. The general absence of augment is perhaps due to the generalisation of unaugmented types.

The following are additional examples of intervocalic *s*—Gk. φέρεαι (Sk. *bhárasē*); Gk. ᾔδεα 'I knew' (Sk. *ávēdisham*, aor.); Gk. νυ(σ)ός 'daughter-in-law,' L. *nurus*, (Sk. *snushā́*, A.S. *snoru*, O.H.G. *snora*, *snura* (G. *schnur*) (**snūs-**)); μείζω for μειζοα = μειζοσα, cp. L. *mājōra* for *māhjŏsa*.

Sometimes, however, intervocalic *s* is found in Greek—πράσον 'leek,' L. *porrum* (**pŕ̥som**).

In Latin too, *s* is found—*susurrus*, a word of imitative origin, *asinus*, *nāsus*, *casa*, *caesariēs* (for these last see account of Conway's Law, Chap. VII.).

s in *causa caussa*, is for *ss*—*caussa* 'cutting, legal decision' comes, according to Conway, from the participle of **caudō*, which became *cūdō*, on the analogy of *incūdō*. The *s* in *fūsus* 'spindle' stands also for *ss*—*fūsus* from *fūdtus*, participle of *fundō*. *quaesō* is for *quaes-sō* (or apply Conway's Law), *hausī* for *haus-sī*.

One more example of intervocalic *s* in Latin is *erō*, O.L. *esō*, subjunctive used as future, cp. Gk. ἔω ὦ.

Medial *s* may remain in Teutonic—A.S. *nasu* (cp. L. *nāris*), or become *r* (through *z*), if the vowel immediately preceding did not have the principal accent (see account of Verner's Law, Chap. VII.).

s before *i̯* and *u̯* has been already treated under *i̯* and *u̯*. In *Minerva* from *Menesu̯ā* (cp. Gk. μενεσ- 'sense, mind') we have *s* appearing as *r* before *u̯*.

Something must now be said of *s* in conjunction with continuous consonants.

sr in Greek becomes ρρ, which, when initial, was reduced to ρ—Hom. ἔρρεε, ῥέε (Sk. *ásravat*) (**sreu̯-**), ῥοή (**srou̯-**), ῥύσις (**sru-**), ῥοφέω (**srobh-**, cp. L. *sorbeō* (**sṛbh-**)).

In Latin, initial *sr* became *thr*, then *fr*; medial *sr* became *br*—*frīgus* = *srīgos* (Gk. ῥῖγος); *frāga* 'strawberries' = *srāga* (Gk. ῥάξ ῥαγός 'grape'); *sobrīnus* 'cousin' = *su̯esrīnos* 'sister's son'; *cerebrum* = *ceresrom* (**keres-**), cp. Gk. κάρᾱ for καρεσα (**kṛes-**); *fūnebris* = *fūnesris*, cp. *fūnestus*, *fūnus fūneris*; *membrum* = *memsrom*, cp. Goth. *mimz* 'flesh'; *tenebrae* (Sk. *támisrā*, O.H.G. *demerunga* (G. *dämmerung*), cp. O.H.G. *dinstar*, *finstar* (G. *finster.*)). Two stems mixed produced *tenebrae*, viz., *temsrā* and *teməsrā*. The former became *tensrā*, and its *n* was introduced into the latter. This is Brugmann's explanation of the *n* in *tenebrae*, Kluge says that dissimilation from the following labial *b* produced *n*, Wharton suggests a popular connexion with *teneō*.

dīruō for *disruō* is formed after *dīluō*.

In Teutonic, *sr* initial, or medial (before the date of Verner's Law), became *str*—Goth. *swistar*, &c.; A.S. *strēam*, O.H.G. *stroum* (Gk. ῥοή—(**srou̯-**).

The combination *rs* has been already referred to under *r*.

sl in Greek becomes λλ, which initially passes into λ, and sometimes medially, with compensation—*λήγω* 'cease' (**slēgu̯-**), cp. *langueō* (**slangu̯-**), A.S. *slæc* and O.H.G. *slach* (**slagu̯-**); Gk. *χείλιοι* and *χῑ́λιοι*, Lesb. *χέλλιοι* (Sk. *sahásra*) (**gheslo-, gheslii̯o-**).

In Latin *s* disappears before *l*—*langueō* (see above), *prēlum* 'wine-press' for *preslom*, *alā* for *axlā* (cp. *axilla* 'armpit,' A.S. *eaxl* 'shoulder,' O.H.G. *ahsala* (G. *achsel*)), *vēlum* for *vexlom* (*vehō*), *scāla* for *scantslā* (*scandō*), *culīna* for *cocslīnā* (without compensation in unaccented syllable).

locus is for *stlocus*, *līs* for *stlīs*, *liēn* 'spleen' for *spli̯ēn* (Gk. σπλήν).

sl remains in Teutonic.

The combination *ls* has been referred to under *l*.

s medial disappears in Greek before *m*, with compensation—Attic *εἰμί*, Lesb. *ἔμμι* (*ἐσμι*): *ζύμη* 'leaven' (*ζῡσμη*), L. *jūs* 'broth,' cp. Sk. *yūshas.* Sometimes, however, by form-association, the *s* is brought back—thus, *ἔστι* induces *ἐσμέν* for regular *εἰμέν*, and *ἠμφίεσται* induces *ἠμφίεσμαι* beside regular *εἷμαι*.

ἄσμενος is for *σϝατσμενος* (p. 122) (**su̯ad-**), cp. *ἁνδάνω* (**su̯and-**) and *ἥδομαι* (**su̯ād-**); *ὀσμή* for *ὀδσμᾱ* (cp. *ὀδμή*).

σ remains in *σμερδαλέος* 'terrible,' A.S. *smeortan* (E. *smart*), O.H.G. *smerzan* (G. *schmerzen*) (**smerd-**), cp. L. *mordeō* (**smr̥d-**), but drops in *μειδιάω*, after assimilation, cp. *φιλομμειδής*.

In Latin *s* drops before *m**—*mīrus*, cp. Sk. *smi* 'smile,' E. *smile*, *smirk*; *prīmus* for *prismos*; *dīmoveō* for *dismoveō*, *cămēna* for *casmēna*, *ŏmittō* for *opsmittō*—the last two without compensation in an unaccented syllable.

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* Conway says that during the period of rhotacism *s* before nasals and after an accented syllable became *r* in Latin—*carmen*, *verna*, *diurnus*.

subtēmen is for *subtexmen*, *sēmēnstris*, for *sexmēnstris.*

sm, as appears from cognates given above, remains in Teutonic. It drops however in Goth. *im* 'am,' Gk. εἰμι (ἐσμι). A.S. *ēom* is said to be the result of contamination with *bēom.*

For example of *ms* take in Greek ἔνειμα, Lesb. ἔνεμμα (for ἐνεμσα); in Latin, *sumpsī* with intrusive *p*—unless this is a new formation, for *ms* probably became *ns;* in Teutonic, Goth. *ams* (Sk. *ámsas* (**ómsos**)—cp. L. *umerus* (**ómesos**) and Gk. ὦμος (**ṓmsos**).)

sn in Greek passes into νν—ἐΰννητος 'well spun' ((σ)νέω). Initially, this was simplified to ν—νυ(σ)ός (Sk. *snushā́*).

νν remains in some dialects, but is in others simplified, with compensation—Ion. φαεινός, Lesb. φαεννός (for φαϜεσνος); ζώνη for ζωσνη. Ionic εἵνῡμι 'dress' exhibits this simplification and compensation, but σ was reintroduced from forms with that letter, viz., ἑσθῆναι, &c., and the ἕννῡμι that was got after assimilation of the σ became permanent.

s before *n* disappears in Latin—*nurus* (Sk. *snushā́*); *satin* for *satisne; viden* for *vidēsne*, with shortening of vowel; *dīnumerō* for *disnumerō; perna* 'ham' (**persnā**, see above); *annus* for *asnos* (**asn-**), cp. Goth. *asans* 'harvest' (**ason-**).

lūna is for *louxna; sēnī* for *sexnī*, *penna* for *petsnā* (**pet-** 'fly'); *cernuus*, 'headlong' for *cersnuos*, cp. *cerebrum* for *ceresrom; alnus* 'alder' for *alsnus*, A.S. *alr*, O.H.G. *ęlira* and *ęrila* (G. *erle*).

For *sn* in Teutonic, take Goth. *asneis* 'day-labourer,' A.S. *ęsne*, O.H.G. *ęsni* (Teut. **ásnii̯a-**, with accent on first syllable—cp. Goth. *asans* 'harvest'); but forms also occur that must have had the first syllable unaccented, judging from the operation of Verner's Law—O.H.G. *arn*, gen. *arni* 'harvest' (M.H.G. *ęrne*, G. *ernte*), *arnōn* 'reap,' A.S.

earnian 'earn' (Teut. **aznṓi̯an**). Also, accentless on root, A.S. *leornian* 'learn,' O.H.G. *lirnēn*, *lernēn* (Teut. **liznṓi̯an**—cp. Goth. *láis* 'I know,' pret.-pres. with accent on root-syllable); and O.H.G. *hirni* (G. *hirn*), from *hirzni hirsni* (Teut. **hirznii̯á**), L. *cerebrum*, Scotch *harns*. Compare also, with labial, Goth. *hwaírnei* 'skull.'

The combination *ns*, followed by a consonant, has been already noticed under *n*.

For an example in Greek of *ns*, followed by a vowel, take ἔμεινα, Lesb. ἔμεννα (for ἐμενσα).

πτίσσω 'winnow' is said to be for πτινσι̯ω, L. *pinsō* (**pins-** and **pis-**).

ns remains in Latin—*mēnsis*. *ns* occurs frequently enough in Teutonic, and often where one would expect *nz*.

ss in Greek becomes *s*—ἔπεσσι appears as ἔπεσι, even in Homer, cp. δύστηνος for δυς + στηνος.

ss remains in Latin after short vowels, but is reduced to single *s* after long vowels—*gessī*, *gressus*, *cassus* 'empty' (*cadtus* from *cadō*), but *mīsī*, *haesī*, *fūsus* (see above). *ss* probably occurred in primitive Teutonic, but afterwards got reduced to *s*. There are no sure examples.

Before tenues, *s* usually remains everywhere.

For *s* lost in such a surrounding take as example Gk. κο(ϝ)έω 'perceive' ((ἀ)κούω), L. *caveō*, Goth. (*us*)*skaws* 'prudent,' A.S. *scēawian* 'show' (**skᵘou̯-**, cp. θυοσκό(ϝ)ος 'sacrificing priest'); L. *parcus* 'sparing,' cp. Gk. σπαρνός, A.S. *spær* 'sparing' (**spar-**).

sabulum 'sand' is for *psablom* (**psabh-**), cp. ψῆφος 'pebble' (**psābh-**).

In the combination *ks*, the letters sometimes interchange places— L. *ascia* 'axe,' cp. Gk. ἀξίνη, Goth. *akwizi*, A.S. *eax*; L. *viscum* 'mistletoe,' cp. Gk. ἰξός.

s in *super*, &c., is said to be a reduction of *ks*, cp. ἐξύπερθε 'from above.'

sk has been transposed in ξίφος, cp. Lesb. σκίφος.

studeō is for *pstudeō* (**pstud**-), cp. Gk. σπεύδω 'hasten' (**psteu̯d**-); *sternuō* 'sneeze' is for *psternuō* (**pstern**-), cp. Gk. πτάρνυμαι (**pstr̥n**-).

Examples of final *s* are common everywhere. Final *s* in Teutonic was subject to the action of Verner's Law. The *z* which the operation of this law produced, passed into *s* in Gothic, and shared the lot of the *s* that had remained unchanged. But the regular appearance of original final *s*, as *z*, when a suffix is attached—*juzei* 'ye who' (*jus* 'ye'), *hwazuh* 'every' (*hwas* 'who')—would lead one to suppose that before its passage to *s*, *z* had generally usurped the place of final *s*. This opinion is supported by the fact that in the case of an *s* which had become final at a later date, *s* remains—*wasuh* 'and there was' (*was* 'it was.')

Final *s* was in Norse levelled under *z*, the latter appearing as *r*.

In West Germanic, final *z*—which had made encroachments on the territory of final *s*—was dropped, but final *s* was retained. In Old High German, the *z* dominated the nominatives plural of *a*-stems, but in Anglo-Saxon, *s* reasserted itself, and was generalised—O.H.G. *taga* 'days,' A.S. *dagas*.

When *r* appears for *z*—O.H.G. *ir*, *er* (Goth. *is*); O.H.G. *wir* (Goth. *weis*); O.H.G. *zar*, *zur*, *zer* (Goth. *tuz*-)—this is doubtless due to facts in sentence phonetics.

In all European languages, the combination of original *media aspirata* + *s*, has the same representation as original *tenuis* + *s*.

z: This sound probably only appeared before mediae and aspirated mediae. Owing to the operation of various changes, this consonant hardly survives *in propriâ personâ* in the languages under consideration.

Gk. *σβέννυμι* 'quench' is said to represent **zgᵘ̯e-**, the weak grade of **segᵘ̯e-**, seen in L. *segnis* 'slow.' Gk. *ἴσθι* 'be' is for *izdhi* (*zdhí*), with prothetic vowel, induced by sibilant. *ἴσθι* 'know' is for *u̯iddhí* (**u̯ei̯d-**).

In Gk. *μισθός*, Goth. *mizdō* 'reward,' A.S. *meord* (W.S. *mēd* (E. *meed*)), O.H.G. *mēta*, *mieta*, *miata* (G. *miethe* 'pay'), the originals were **mizdhó-**, **mizdhā́-**.

Gk. *κύσθος* 'hole,' L. *custōs*, Goth. *huzd* 'hoard,' A.S. *hord* are to be referred to *kuzdh-* (**keu̯dh-** 'hide,' cp. Gk. *κεύθω*, A.S. *hȳdan* (with *i*-umlaut of *ēo*)).

The original of *nīdus* was *nizdos*; of *sīdō*, *sizdō*; of *mergus* 'gull' ('diver'), *mezgu̯os*; of *īdem*, *izdem*; of *hordeum*, *ghr̥zdei̯om*, cp. A.S. *gerst*, O.H.G. *gersta* 'barley' (**gherzd-**); of *nōbīs*, &c., *nozbīs*, with *bh-* suffix.

hasta (Goth. *gazds* 'goad,' A.S. *gierd* (*ie* = *i*-umlaut of *ea*, the breaking of *a*) (E. *yard*), O.H.G. *gerta* (G. *gerte*)) is from **ghazdhā**. E. *goad* (A.S. *gād* (**ghai̯tṓ-**) is cognate with Sk. *hi* 'drive on,' and Gk. *χαῖος* 'shepherd's staff.'

r: Sk. *rudhirás* (**rudhr̥-**) Gk. *ἐρυθρός*, L. *ruber* (**rudhr-**, L. *russus* (**rudhto-**)), Goth. *ráuþs*, A.S. *rēad*, O.H.G. *rōt* (**rou̯dh-**, cp. with same root, L. *rūfus*).

There were at least two liquids in Indo-European—*r* and *l*. Sanskrit does not always corroborate European (or Armenian) in its representation of these sounds, for, while Sk. *r* usually answers to European *r*, the latter is sometimes represented in Sanskrit by *l*. Sometimes both *r* and a later *l* appear. European *l* is in Sanskrit mostly represented by *r*, but sometimes by *l*, or by *r*, and later by *l*. The *l*, however, that represents European *l*, is a much more frequent sound than the *l* that corresponds to European *r*.

So far as frequent occurrence is concerned, *r* in Sanskrit wins easily. There is hardly a root containing *l*, that does not also show *r*, and it was only in the later periods of the language that *l* asserted its individuality.

r had in Sanskrit a cerebral pronunciation. A following dental becomes cerebral, and *r* itself vanishes—*káṭas* 'wickerwork' (**kᵘ̯ort-**), cp. Gk. *κάρταλλος* 'basket,' Goth. *haúrds* 'door,' A.S. *hyrdel* 'hurdle' (*y* = *i*-umlaut), O.H.G. *hurt* (G. *hürde*) 'wickerwork' (**kᵘ̯r̥t-**), and L. *crātēs* (**kᵘ̯r̥̄t-**).

In Greek, initial *ρ* sometimes suffers prothesis—*ἐρυθρός* (L. *ruber*).

Occasionally, to satisfy the desire for dissimilation, the one liquid takes the place of the other—*μορμολύττομαι* 'frighten' and *μόρμορος* 'fear.'

This process is common in Latin—*caeruleus* and *caelum*, (*exempl*)*aris* and (*aequ*)*alis*, *peregrīnus* and Vulgar Latin *pelegrīnus* (O.F. *pelegrin*, F. *pèlerin* (E. *pilgrim*)).

Notice the following assimilations in Latin—*stella* for *sterla* (L. *sternō*), *paullus* for *paurlos* (Gk. *παῦρος*).

In the same language, *ri rī* sometimes result in *er*—*hībernus* (*hībrinus hīmrinus*), cp. Gk. *χειμερινός*; *incertus* for *incritos* (cp. Gk. *ἄκριτος*); *sēcernō* for *sēcrinō* (even simple *cernō* with accented syllable shews the *er*, got presumably from the cpds.); *terō* (*trīō*, cp. *trīvī*).

rs appears as *rr*, and before *t*, as *s*, with compensation—*porrum* (Gk. *πράσον*—**pŕ̥som**); *ferre* for *ferse*; *far farris*

(Goth. *barizeins* 'of barley,' A.S. *bęre*—**bhars-**); *fāstīgium*, for *fārstīgu̯ium* (**bhṝstí-**), cp. Sk. *bhṛshtís* 'point,' A.S. *byrst* 'bristle' (*ur* into *yr*, by *i*-umlaut) (**bhṛstí-**).

Unoriginal *rs* remains, and interchanges with *ss*—*dorsum dossum* (*dorttum*, **dṛt-**). Compare *Dossēnus* 'the hunchback of the Atellan farces'; but this word is now said to be of Semitic origin, and to mean '*bon vivant*.'

rs remained in Greek, but later became ρρ—θαρσέω and θαρρέω, Goth. *gadaúrsan*, A.S. *durran*, O.H.G. *turran* (**dhṛs-**); τέρσομαι 'dry up' (**ters-**); Sk. *tṛ́shyāmi* 'I thirst' L. *torreō* (*torseō*), Goth. *þaúrstei*, A.S. *ðyrst* (*y* through *i*-umlaut), O.H.G. *durst* (**tṛs-**).

rs sometimes becomes *rr* in Teutonic (see previous sentence)—O.H.G. *irrōn* (G. *irren*), (L. *errare* for *ersare*, Goth. *aírzjan* 'mislead').

For the *r* in Teutonic, that through intermediate *z* came to represent I.E. *s*, see the Chapter on Grimm's Law.

Note *cancer* (= *carcer*, by dissimilation) and καρκίνος.

r disappears before (*s*)*n* in *cēna* (*caesna*) = *caersna*, cp. *silicernium* 'funeral feast' (*sedeō* +); after *st* in *praestīgiae* (by dissimilation) 'tricks' (*prae*, *strīga* 'witch'); before *sc* in *pōscō* (*por*(*c*)*scō*), Sk. *pṛchā́mi* 'I ask,' O.H.G. *forscōn* (G. *forschen*) (**pṛksk-**), cp. L. *precor*, Goth. *fraíhnan*, A.S. *frignan* (**prek-**), and L. *procax* (**prok-**, Gk. θεοπρόπος = θεοπροκϜος); and before *st* in *tostus* (*torstus*).

In the A.S. *rifeling* 'a sort of shoe or sandal' (Norse *hriflingr*, L. *crepida* 'sandal' (**krep-**), Gk. κρηπῖς 'half-boot' **krēp-**), we have *hr* represented by *r*.

Note the disappearance of *r* in *specan* (for *sprecan*) 'speak.'

In Anglo-Saxon, *lr* passes into *ll*, *sr* into *ss*, in *sēlla* 'better' for *sēlra*, *lǣssa* 'less' for *lǣsra*.

l : Sk. *lih* 'lick,' Gk. λείχω, L. *lingō*, Goth. (*bi*)*laigōn*, A.S. *liccian* (*cc*=*ȝȝ*=*ȝn*=*ghn* (with accent following), see Paul & Kluge's Law, Chap. VII.) O.H.G. *lecchon* (G. *lecken*) (**ligh**-, **lei̯gh**-, **loi̯gh**-, **lingh**-).

In Greek, initial λ sometimes suffers prothesis—ἐλαφρός 'light,' ἐλαχύς 'small,' Sk. *laghús*, 'light,' A.S. *lungre* 'quickly,' O.H.G. *lungar* 'quick,' (**lṇghu̯**- and **lṇghᵘ̯ró**-), cp. L. *levis* (**leghu̯**-), and Goth. *leihts*, A.S. *leoht* (*eo*, breaking of *i*, shortened from *ī*) (Teut. *līhta*, compens. lengthening, from **lenghu̯**-).

Before τ and θ, λ in Doric became ν—cp. the φίντατος and ἦνθον of Theocritus.

λν with preceding short vowel results in λλ, with later compensatory lengthening—βούλεται (Lesb. βόλλεται) = γᵘ̯ολνεται (**gᵘ̯lno**-), ὄλλῡμι = ὀλνῡμι.

In Latin *ln* becomes by assimilation *ll*—*collis* = *colnis* (cp. Gk. κολωνός (**kᵘ̯olōn**-) unless it represents *len*, when it remains—*ūlna* (Gk. ὠλένη (**ōl(e)n**-), cp. Goth. *aleina* ('verschrieben für alina' Kluge). A.S. *ęln* 'ell' (E. *elbow*) (*e* from *a* (orig. *o*) by *i*-umlaut), O.H.G. *ęlin*(*a*) (G. *elle*).

nl gives same result—*homullus* for *homōnlos*.

For a like assimilation in Teutonic, compare the Gothic and Anglo-Saxon cognates of *collis*—Goth. *hallus* 'rock,' A.S. *heall* (cp. A.S. *hyll* (*y* = *i*-umlaut of *ea*) (**kᵘ̯oln**-).

In Latin, *ls* also became *ll*—*collum* = *colsum* (A.S. *heals*), *velle* for *velse*.

λς remains in Greek—τέλσον 'boundary-furrow' (Sk. *kárshāmi* 'I furrow, plough,' (**kᵘ̯els**-).

m : Sk. *mádhyas*, Gk. μέ(σ)σος (*-dhi̯*-, see under *i̯*), L. *medius*, Goth. *midjis*, A.S. *midd*, O.H.G. *mitti* (**medhi̯os**).

In the parent speech there were as many nasals as there were classes of explosives—*labial*, *dental*, *palatal*, and *velar* nasals.

For these four nasals there were separate characters in Sanskrit, not to mention an extra character for a cerebral nasal. In English the character of a nasal is still determined by its surrounding, although only two characters are made use of.

Final *m* becomes *ν* in Greek (and in Teutonic, conserved when followed by suffix, dropped otherwise)—Gk. *τόν*, Goth. *þana*, A.S. *ðǫne*, O.H.G. *den* (with diff. ablaut) (Sk. *tám* (**tom**)); Goth. *wulf* (Teut. *u̯ulfan*).

Note also a later change of *m* into *n*—O.H.G. dat. plu. *tagun* (from *tagum*), A.S. *dagum* (later *dagon*); O.H.G. 1 plu. *geban* 'we give' (from *gebam*, cp. Goth. *gibam*).

mt is said to have become *ντ* in Hom. *γέντο* 'he grasped,' cp. *ὕγγεμος* (Hesych.) 'a grasping.'

In Latin, *m* became *n* before *t*—*contrā* (*cum*); before *d*—*eundem* (*eum*), *perendiē* 'day after to-morrow' (cp. Sk. *páras* 'yonder': assume a loc. *péresmi* (Sk. *párasmin*), whence *parem*, *paren*). Analogy however produced many exceptions—*verumtamen* and *quamdiu* after the analogy of *verum* and *quam*.

This change also takes place in Teutonic—Goth. *hund*, A.S. *hund*, O.H.G. *hunt* (see under *ṃ*) (**kṃtóm**).

In Greek, *μβρ*, *μβλ*, *νδρ*, after the generation of *β* and *δ*, the nasal, when initial, drops—*βροτός* (*ἄμβροτος*) Sk. *mártas*, *mṛtás* (**mórtos** and **mṛtós**, see under *ṛ*); *βλώσκω* 'come' (*μέμβλωκα*, *ἔμολον* (**mḹ-**); *δροτῆτα* (probable substitute in certain cases for *ἀνδροτῆτα*).

In Latin and Greek, *mi̯* becomes *ni̯*—*venĭō*, *βαίνω* (**gᵘ̯ṃi̯ṓ**).

In this combination, gemination appears in Teutonic—

A.S. *frẹmmian* 'further,' O.H.G. *frummian*, cp. O.H.G. *frum* 'fit' (G. *fromm*).

m is lost in *nūncupō* (*nōmencupō*), in *sēsqui-* (*sēmissi-* + *-que*), in *forceps* (*formiceps*, 'quod his, forma, id est calida, capiuntur' Festus).

Plumbum 'lead' is from *mlümbom*, cp. Gk. μόλυβδος, μόλιβος.

n: Sk. *návas*, Gk. νέος, L. *novus* (**néu̯os**), Sk. *návyas* Goth. *niujis*, A.S. *nēowe*, O.H.G. *niuwi* (G. *neu*) (**néu̯i̯os**).

In Greek (and Gothic), guttural *n* is written *g*—ἄγχω, Goth. (*ga*)*aggwjan* 'distress greatly' (L. *angō*).

ν drops before *s* followed by a consonant without compensatory lengthening—κεστός 'embroidered' for κενστος, from κεντέω, χαριέστερος for χαριϜενστερος, Ἀθήνᾰζε for Ἀθηνανσ-δε, δεσπότης (δενς, I.E. *dems* 'of a house,' rt. *dem-* 'build').

νς final, in Greek, only remains in Cretan and Argive. Elsewhere the ν became sonant, and formed with the preceding short vowel a long nasal vowel. This afterwards lost its nasality—Doric τώς, Ionic-Attic τούς (Cretan and Argive τόνς).

For νς followed by a vowel, see under *s*.

In final *-ns*, and in *-nsl-*, the *n* drops in Latin with compensatory lengthening—(*equ*)*ōs* for *-ons* (Goth. *-ans*). *pīlum* for *pinslom*, *īlicō* for *in*(*s*)*locō*.

By the bye, it is said that the combination of *long vowel* + *ns* dropt the nasal in Indo-European. Compare the *ās* and *ōs* of the following two *ā* stems—Sk. *áśvās* 'mares,' Goth. *gibōs* 'gifts.'

In *vīcēnī* for *vīcent-nī-* (**u̯ikm̥t-**), *n* has dropped with compensation, in εἴκοσι (**u̯ei̯km̥ti**), *nt* has become *s*, with *o* for *a*, from the -κοντα of the other numerals.

Note *cēnsus* for *censtus*, and *anfrāctus* 'winding' (Oscan *amfr-* (L. *amb-*) and *agō*). Perhaps the *r* of *amfr-* (*amfer*) is due to the analogy of prepositions in *er*, like *inter*.

In Teutonic, *n* disappears before *h*, and the preceding vowel is lengthened—Goth. *þāhta*, A.S. *ðōhte*, O.H.G. *dāhta* (G. *dachte*) (O.L. *tongēre* 'know').

Combinations with *n* in Teutonic, as noticed above in the case of *ln*, often result in gemination of the previous consonant, e.g., *kk* = I.E. *kn*, *gn*, *ghn* (palatals and velars), with accent on following vowel; *tt* = I.E. *tn*, *dn*, *dhn*, with accent on following vowel; *pp* = I.E. *pn*, *bn*, *bhn*, with accent on following vowel (see statement of Paul and Kluge's Law in Chapter on Grimm's Law).

ṛ : Sk. *mṛtis* 'death,' Gk. *βροτός* 'mortal,' L. *mors mortis*, Goth. *maúrþr*, A.S. *morð*, O.H.G. *mord* (G. *mord*) (**mṛt-**).

Before *i̯*, and, with *r* as intervening glide, before vowels, *r* is represented in Sanskrit by *ur ir*, in Greek by *αρ*, in Latin by *or*, and in Teutonic by *ur*: before other sounds (explosives, spirants, nasals, *u̯*) and finally, *r* is represented in Sanskrit by the *ṛi* vowel, in Greek by *ρα αρ*, in Latin by *or*, and in Teutonic by *ru ur*.

The *ρο* of *βροτός* is due to the mixing of a form having *-ορ-* (*or*) with a form having *-ρα-* (*ṛ*). The *o* in A.S. *morð* and O.H.G. *mord*, is caused by what is sometimes called *a*-umlaut (see Chap. V.).

For general examples of *ṛ*, take Gk. *χαίρω* for *χαρi̯ω*, O.L. *horior* (*hortor* is from **hortus* = *χαρτός* 'wished for'); Sk. *gurús*, Gk. *βαρύς*, Goth. *kaúrus* (**gu̯ṛrús**), L. *gravis* for *grovis* (**gu̯ṛou̯-**), cp. *avis* for *ovis* (Gk. *οἰωνός* = *ὀϜιωνος*, L. *autumō* (*avitumō*) 'say,' Gk. *οἴομαι* (*ὀϜιομαι*) 'think' (augural terms)); Sk. *śiras*, Gk. *κάρᾱ* for *καρεσᾱ* (**kṛes-**), cp. L. *cerebrum* (**keres-**); Sk. *hṛ́d*, Gk. *καρδία κραδίη*, L. *cor cordis* (**kṛd-**), cp. Goth. *hairtō*, A.S. *heorte* (*eo* = breaking of *e*), O.H.G. *herza* (G. *herz*) (**kerd-**); Gk. *ῥέζω* (reg. *ῥαζω* for *ϝραγι̯ω*), Goth. *waúrkjan*, O.H.G. *wurchen* (**u̯ṛg-**) (see above, under *i̯*); Goth. *trudan* 'tread,' cp. A.S. *tredan*, O.H.G. *tretan* (G. *treten*); Goth. *brōþrum*, dat. plu. of *brōþar*, cp. with Sk. loc. plu. *bhrā́tṛshu*; L. *quercus* (*querquus quorquus*) 'oak,' A.S. *furh-*, O.H.G. *forha* (the *o* due to following *a*) (G. *föhre*) (**ku̯ṛku̯-**)—tree-names are sometimes confused, cp. L. *fāgus* 'beech' and Gk. *φηγός* 'oak,' L. *frāxinus* 'ash' and A.S. *beorce* (*eo* = breaking of *e*) 'birch' (**bhṝg-, bherg-**); Gk. *ἧπαρ* (**i̯ēku̯ṛ-**), L. *jecur* (*-or*) (**i̯eku̯ṛ-**), Sk. *yákṛt* (**i̯eku̯ṛt-**).

Note *οὖθαρ*, like *ἧπαρ*, with suffix *ṛ*. The Sanskrit cognate is *ū́dhar*. The suffix here cannot represent an original *ṛ*. There is some difficulty with the termination of L. *ūber*. The Teutonic cognates are A.S. *ūder*, O.H.G. *ūtar* (G. *euter*).

Sometimes *or* appears as *ur* in Latin (*o* before *r* + consonant fluctuates between *o* and *u*)—*ursus* for *orcsos* (Sk. *ṛ́kshas*, Gk. *ἄρκτος* (**ṛ́kthos**)).

u̯ṛ appears in Latin initially as *ver*, *vor*, and *ur* (*vur*)—*verrō* (and *vorrō*) 'sweep' (**u̯ṛs-**), cp. Gk. *ἀπόϝερσε* 'it swept away' (**u̯ers-**); *urgeō urgueō* for *u̯urgueō* (**u̯ṛgu̯-**), cp. Gk. *ἐ(ϝ)έργω*, L. *vergō* (**u̯ergu̯-**).

u̯ṛ appears as *ru* in *trua* 'handle' (**tu̯ṛ-**), cp. Gk. *τορῡ́νη* 'ladle' (**tu̯or-**), A.S. *ðwiril* (**tu̯er-**) 'churn-handle.'

For $k^{u̯}$*ṛ*, confer *quercus* above.

Initial $g^{u̯}$*ṛ* appears as *gur* (*gor*), in *gurges* (**gu̯ṛg-**), and as *vor* in *vorō* (**gu̯ṛ-**), cp. Gk. *βορᾱ́*, *βιβρώσκω*, Sk. *gīrṇis* 'a swallowing' (**gu̯ṝ-**).

The appearance of *ur* or *ir* in Sanskrit, was doubtless conditioned by the character of the neighbouring sounds. A labial neighbourhood would favour the appearance of *ur*. αρ appears in Greek before vowels and consonants, ρα before consonants, while initially, α always preceded ρ, as in ἄρκτος. Form-association sometimes determined the use of αρ and ρα in Greek, and of *ur* or *ru* (*ur* probably original) in Teutonic.

The *u* of Teutonic is in Anglo-Saxon and Old High German subject to the usual umlauts—A.S. *ford* (*or* for *ur*, by *a*-umlaut), O.H.G. *furt*, L. *portus* (**pṛtu-**); A.S. *cyrnel* (*yr* for *ur*, by *i*-umlaut), Goth. *kaúrn* (**gṛno-**), L. *grānum* (-**ṝ**-).

ṝ: Sk. *īrmás*, L. *armus*, Goth. *arms*, A.S. *earm* (*ea* = breaking of *a*) (**ṝmós**).

Everything is not yet clear about the representation of the long liquid sonants in general.

Thus much may be said of *ṝ*—in Sanskrit, it is represented by *īr ūr*; in Greek, by ορ ρω, and finally, by ωρ; in Latin, by *ar* and *rā*; and in Teutonic, by *ar*.

As examples, take Sk. *ūrdhvás* 'upright,' Gk. ὀρθός, L. *arduus* (**ṝdhu̯ós**); Sk. *stīrnás* 'spread,' Gk. στρωτός, L. *strātus*.

In Gk. ὕδωρ, the ωρ is said to be for *ṝ*.

Gk. ορ, L. *ar* were doubtless shortened from ωρ and *ar*, on some such principle as that which gives us L. *ventus* from (**u̯ēnt-**), see Chapter V., page 112.

ḷ: Sk. *pipṛmás* 'we fill' Gk. (ἐμ)πίπλαμεν, L. *polleō* (*polneō*), Goth. *fulls*, A.S. *fyllan* (*y* by *i*-umlaut), O.H.G. *fullen* (G. *füllen*).

ḷ, compared with *ṛ*, has in similar circumstances similar representations. In Sanskrit we have *ul* (*il*), *ur*, and the *ṛi* (*ḷi*) vowel, in Greek αλ and λα, in Latin *ol*, in Teutonic *ul* and *lu* (*ul* probably original).

Take for additional example Sk. *tul* ‘lift,’ Gk. τάλαντον, L. *tolerō*, Goth. *þulan* ‘thole,’ A.S. *ðolian*, O.H.G. *thulten* (G. *dulden*) (*tḷl-*), cp. Gk. τόλμα (-*ḹ*-).

In Latin, *ḷ* also appears as *ul* (*o* before *l* + consonant, (except *ll*) passed into *u*)—*tulī* ; *gula* ‘throat’ (**gṷḷ**-, or **gḷ**), A.S. *ceole* (*eo* = *o*-umlaut of *e*), O.H.G. *chela* (G. *kehle*) (**gṷel**-, or **gel**-) ; *sulcus* ‘furrow,’ A.S. *sulh* ‘plough’ (**sḷkos**), Gk. ὅλκος (**solkos**).

u̯ḷ appears in Greek as λυ, in Latin as *lu*—G. λύκος, L. *lupus* (dialectic for *luquus*), Sk. *vṛ́kas*, Goth. *wulfs*, A.S. *wulf*, O.H.G. *wolf* (**u̯ḷ́kṷos**), cp. Gk. ἕλκω ‘drag’ (**u̯elkṷ**-).

The *u* of Teutonic is in Anglo-Saxon and Old High German subject to the usual umlauts—A.S. *holt* (*ol* for *ul* by *a*-umlaut), O.H.G. *holz*, Gk. κλάδος ‘branch’ (**kḷdó**-).

ḹ: Sk. *ū́rṇā* ‘wool,’ L. *lāna*; Sk. *dīrghás* ‘long,’ Gk. δολιχός, L. *largus* (*lalgus*, *dalgus*, *r* due to dissimilation) ; Sk. *ūrmís*, ‘wave,’ A.S. *wielm wylm* ; Gk. χλωρός ‘pale,’ L. *flāvus*.

In A.S. *wielm wylm*, the *ie* and *y* are *i*-umlauts of *ea*, the breaking of original *a*. The Teut. type is **u̯almiz**.

From the above examples, it appears that *l* was represented in Sanskrit by *īr ūr*, in Greek by ολ λω, in Latin by (*al*) *lā*, and in Teutonic by *al*.

ṃ : Sk. *śatám*, G. ἑκατόν (for ἁκατον, ἁ = *sṃ*, cf. L. *semel* (*sem*)—cp. ἅτερος for *sṃteros* (ἕτερος gets its ε from the analogy of the oblique cases of εἷς), L. *centum*, Goth. *hund* (see under *m*), A.S. *hund*, O.H.G. *hunt* (G. *hundert*, for second portion of this and of E. *hundred* cp. Goth. *raþjan* ‘count’) (I.E. (**d**)**kṃtóm**).

ṇ : Sk. *saptá*, Gk. ἑπτά, L. *septem* (*m* got from the ordinal) (I.E. **septṇ́**), Goth. *sibun*, A.S. *seofon* (*eo* due to *u*-

umlaut), O.H.G. *sibun* (I.E. **sepn̥**), but perhaps *m̥* is here the original sound. Brugmann chooses the latter.

In the parent speech, as in the case of the nasal consonants, there were as many nasal sonants as classes of explosives —*labial*, *dental*, *palatal*, and *velar*.

In unaccented syllables before *i̯*, in syllables with principal accent before consonants, and, with intervening *m* and *n* as glides, before vowels, *m̥ n̥* are represented in Sanskrit by *am an*, in Greek by *αν*, in Latin by *em en*, and in Teutonic by *um un;* before other sounds (explosives, spirants, nasals, liquids), and finally, they are represented in Sanskrit by *a*, in Greek by *α*, in Latin by *em en*, and in Teutonic by *um*, *un*.

For examples take Sk. *dántas*, L. *dens*, Goth. *tunþus* (**dn̥t-**), cp. Gk. *ὀδοντ-*, A.S. *tōð* (compens. lengthening for loss of *o*), O.H.G. *zand* (G. *zahn*) (**dont-**); Sk. *tanús*, Gk. *τανύγλωσσος* 'long tongued,' L. *tenuis*, A.S. *ðynne* (the *y* due to *i*-umlaut), O.H.G. *dunni* (**tn̥nú-**): O.L. *hemō* (later *homō* (**ghomō(n)**), Goth. *guma*, A.S. *guma* (*u* for West Germanic *o*, before nasal), E. *(bridẹ)g(r)oom*, O.H.G. *gomo* (*o* = *a*-umlaut) (**ghm̥mō(n)**); Gk. *βαίνω*, L. *veniō* (**g**$^{u̯}$**m̥i̯ó**), cp. Goth. *kwiman*, A.S. *cuman* (*cwiman*), O.H.G. *queman* (**g**$^{u̯}$**em-**); Sk. *an(udrás)* 'waterless,' Gk. *ἄν(υδρος)* (*n̥n-*), and Sk. *a(pád-)* Gk. *ἄ(πους)* (*n̥-*)—Latin and Teutonic have the same form (L. *in*, Teut. *un*) for both prefixes.

Note *ἀοσσητήρ* 'helper' (*σσ* = *k*$^{u̯}$*i̯*) (*sm̥-*, *sok*$^{u̯}$- (cp. L. *sequor*)). There is a new explanation of *mīlia* which discloses *sm̥-*, viz., *mīlia* = *sm̥(h)ī́lia* (*ī* = I.E. sonant *z*), cp. Sk. *sahásram*, both = 'one thousand,' whereas *χίλια* is simply 'thousand' (Amer. Jour. Phil., vol. xiii. 2, p. 227).

Just as in the combination *e* + nasal, *e* passed into *i* in Latin, so *em* (*m̥*) appears also as *im*—*sim(plex)*, *sin(gulī)*, *sim(ul)*, Gk. ἅ(παξ), ἅ(μα), ἁ(πλοῦς), Goth. *sums* 'some,' A.S. *sum*, O.H.G. *sum* (*sm̥-*).

So *en* (*n̥*), as in *lingua* (for *dingua*), Goth. *tuggō*, A.S. *tunge*, O.H.G. *zunga* (G. *zunge*) (**dn̥ghu̯ā**). *n̥* appears as *ī* in *īgnis*, Sk. *agnís* (**n̥gu̯nís**).

The developed *u* of the Teutonic representation is subject to the same changes as natural *u*—A.S. *synn* 'sin' (*yn* for *un*, by *i*-umlaut), O.H.G. *sunta* and *sundia* (**sn̥ti̯ā́**), cp. L. *sons so̜ntis* 'guilty' (**sonti-**).

m̥̄ : Sk. *ágāta*, Gk. ἔβητε (Dor. *ᾱ*) (**é gu̯m̥̄té**).

n̥̄ : Sk. *ātís* 'a water-fowl,' Gk. νῆσσα 'duck' (from νᾱτι̯α) (**n̥̄tí-**)—cp. L. *anās*, A.S. *æned* (E. *d(rake)* 'duck-king'), O.H.G. *anut* (G. *ente*), perhaps from a stem *anatí-* : Sk. *yā́tar-* 'wife of husband's brother,' L. *janitrīces* (**i̯n̥̄tér-**), cp. Gk. εἰνάτερες, strong stem *éi̯nəter-* (Bloomfield).

The above cognates embody all that is definitely known about the representation of the long sonant nasals, viz. :—In Sanskrit, *n* and *m* are represented by *ā*, in Greek, between consonants, by *ᾱ*, *n̥̄* initial being represented by νη- (Dor. νᾱ-). In Latin, *n̥̄* is represented by *nā* and *an*, which correspond to Gk. *ᾱ* and νᾱ.

It will be useful here, to notice some formations in which the nasal sonants appear. A nasal sonant is seen in the personal ending of the 3d plu. pres.—Sk. *sánti*, Gk. (Ion.) ἔᾱσι for ἐσαντι, Umbrian *sent* (L. *sunt* is for *sent*, the *u* being due to the analogy of thematic presents like *ferunt*, *agunt*), Norse *eru* 'are,' Prim. Teut. *izunþi* (**sń̥ti**) : also in the 3d plu. endings of historic tenses—Gk. (ἔδειξ)αν, O.H.G. (*wiss*)*un*.

The *α* (*ṃ-*) of ἔδειξα, &c., represents a nasal sonant.

In aorists, nasal sonants appear—ἔχαδον (χενδ- 'seize,' L. *-hend-*, strong grade), ἔλαχον (λεγχ- 'obtain,' cp. λέλογχα, with strong grade).

βαίνω (**gu̯ṃió**) is an example of a present with nasal sonant.

Nasal sonants appear in the verbal *τατός* 'stretched,' *tentus* (*-ṇt-*); in *πέφαται* (*-ṇt-*), 3d sing. perf. pass. (cp. *φόνος*, strong grade); in *γέγαμεν* (*-ṇm-*), 1st plu. perf. (cp. *γέγονα*, strong grade); in aorist ἔκταμεν (*-ṇm-*); in the 3d plu. endings *-αται -ατο* (*-ṇt-*); in the aorist infinitives *ταμεῖν* (*-ṃm-*), *κτανεῖν* (*-ṇn-*), *θανεῖν* (*ṇn*), &c.; and in the participial suffixes Sk. *-ant-*, Gk. *αντ-*((*δειξ*)*αντ-*) (*-ṇt-*); and Sk. *at*, L. *-ent-* ((*rud*)*ent-*) (*-ṇt-*).

Note Doric ἔασσα, nom. sing. fem. pres. part. (*sṇtī́*).

In Sk. *asma-*, Æolic *ἄμμες*, Att. *ἡμεῖς*, (rough breathing due to the influence of *ὑμεῖς*, where it equals *i̯*), Prim. Gk. *ἀσμε-*, Goth. *uns*, we have the representatives of an I.E. type containing a nasal sonant, viz., I.E. **ṇsme-**.

φρασί (Pindar) for *φρṇσι* is linguistically more correct than Attic *φρεσί* (*ε* imported from other cases); *ὀνόμασι* is for *ὀνομṇσι*; (*ὄνο*)*μα*, (*no*)*men*, for *mṇ*.

In the acc. plu. suffix, there was once heard a nasal sonant (*-ṇs*)—Sk. (*nā́v*)*as*, Gk. (*νῆ*)*ας*, L. (*nāv*)*ēs*.

In Goth. acc. sing. (*fot*)*u*, the *-u* (Gk. *-α*, L. *-em*) is for *ṃ*.

In ἐννέϝα (Goth. *niun*, &c.), *a* represents *ṇ*; *novem* has taken after *decem*, *septem*. *Septimus*, *decimus*, &c., are for *septṃmos*, *dekṃmos*. L. *-ōnsus*, *-ōsus* seen in *formōnsus*, *formōsus*, is for *-ou̯ensso-* (**-ou̯ṇt + to**). **-u̯ṇt** is the weak form of suffix **-u̯ent** (Sk. *-vant-*, Gk. *-ϝεντ-*).

CHAPTER IV.

Sound Relations in Indo-European—Explosives.

In this chapter the explosives (labials, dentals, palatals, velars) are treated. The following is a table illustrating their representation in the languages under consideration:—

I.E.	Sk.	Gk.	L.	Goth.	A.S.	O.H.G.
p	p	π	p	f b	f b	f b
b	b	β	b	p	p	pf, ff, f
bh	bh	φ	f b	b	b	b, p
t	t	τ	t	th, d	th, d	d, t
d	d	δ	d	t	t	z
dh	dh	θ	f b d	d	d	t
k	ś(ç)	κ	c	h, g	h, g	h, g, k
g	j	γ	g	k	c	cch, ch, hh, h

I.E.	Sk.	Gk.	L.	Goth.	A.S.	O.H.G.
gh	h	χ	h, g	g	g	g, k (c)
k$^{\text{u̯}}$	k, c	π, τ, κ	qu, c	Teutonic, with developments in O.H.G. as in palatals. hw,	gw, f, b,	h,g
g$^{\text{u̯}}$	g, j	β, δ, γ	gu, v, g	kw	(cw), p,	k (c)
gh$^{\text{u̯}}$	gh, h	φ, θ, χ	gu, v, g, f, b, h		w, g	

p: Sk. *pátāmi* 'I fly,' Gk. πέτομαι, L. *petō*, A.S. *feðer* 'feather,' O.H.G. *federa* (G. *feder*) (**pet-**).

b: L. *labium* (= *lebium*), A.S. *lippe*, O.H.G. *lefs* (*fs* for *ps*, prim. Germ. *lepas*—G. *lippe* is of Niederdeutsch origin, the Oberdeutsch form is *lefze*) (**leb-**). The *a* in L. *labium* is probably due to association with *lambō*.

bh: Sk. *nā́bhis* (**nōbh-**), Gk. ὀμφαλός, L. *umbō umbilīcus* (**ombh-**), A.S. *nafu* 'nave' *nafela*, O.H.G. *naba*, *nabolo* (G. *nabe*, *nabel*) (**nobh-**).

The labials were stops formed between the lips. In Teutonic, *f* (orig. *p*) had a labio-dental position.

b was the least common of the labials in Indo-European.

In Sanskrit, the labials remain. Aspirate labials lose their aspiration before the initial aspirate of the succeeding syllable. This holds good also for Greek (see Grassman's Law, Chap. VII.).

For examples of labials in Sanskrit take *nápāt*—'grandson,' Gk. νέποδες 'children' (*d* through popular association with πόδες, quasi 'qui pedum usu carent'), ἀνεψιός

(=-νεπτι̯ος), cp. Sk. *naptís* 'grand-daughter, niece,' L. *neptis*, A.S. and O.H.G. *nift*, L. *nepōs*, Goth, *nifþjis* 'kinsman,' A.S. *nefa* 'nephew,' O.H.G. *nefo* (G. *neffe*) (**nepōt-, nepot-, nepti-, nep-**); *sabar-* 'nectar,' A.S. *sæp* 'juice,' O.H.G. *saf* (G. *saft*) (**sab-**, but **sap-** also occurs, as in L. *sapiō*). Wharton brings *sapiō* (pretonic *a* into *e*—cp. *capiō* (=*cepío*) (**kᵘ̯ep-**), Goth. *hafjan* 'raise,' A.S. *hębban* (*i*-umlaut of *a* (orig. *o*)), O.H.G. *hęffen hęven* (G. *heben*) (**kᵘ̯op-**)) under **sep-**, and compares A.S. *sefan* 'understand' (**sep-**), and Gk. ὀπός 'juice' (**sop-**).

Resuming examples we have *bhū́mi*, Gk. φύω (Lesb. φυίω), L. *fuī* (*fūvī*) *fiō* (*fūō*), A.S. *būan*, O.H.G. *būan* (**bhū̆-**), cp. A.S. *bēon* (**bheu̯-**); *budhnás* (*bhudnas*) 'root,' Gk. πυθμήν (φυθμην) 'bottom' (**bhudh-**), Gk. πύνδαξ, L. *fundus* (**bhundh-**); A.S. *botm*, O.H.G. *bodam* (G. *boden*) (**bhud-**); *bṓdhati* 'awakes,' Gk. πεύθομαι, Goth. (*ana*)*biudan* 'command,' A.S. *bēodan* (E. *bid* 'command'), O.H.G. *biotan* (G. *bieten*) (**bheu̯dh-**).

bh sometimes appears in Sanskrit as *h*—*gr̥hṇā́mi* beside older *gr̥bhṇā́mi* 'I seize.'

In Greek, the labial tenues and mediae remain, the labial mediae aspiratae are changed into tenues aspiratae. After the historical period the mediae became voiced spirants, and the tenues aspiratae, voiceless spirants.

Examples of the retention of labials in Greek have appeared above.

Note the following transmutations:—φροῦδος 'gone away' (φ before ῥ), for πῤουδος (πρό, ὁδός); ἔφοδος for ἐπὸδος; ὄμμα for ὀπμα; σκοπέω (for σποκεω) (**spok-**), cp. σκέπτομαι, L. *speciō*, O.H.G. *spehōn* (G. *spähen*) (**spek-**).

Gk. βν and βμ become μν and μμ—μνάομαι 'woo' from *βνᾱ 'wife' (**gᵘ̯nā-**), cp. Bœot. βανᾱ́ 'woman' (**gᵘ̯n̥nā-**);

ἀμνός (for *ἀβνος*), L. *āgnus* (**agᵘ̯nos**) ; *σεμνός* (for *σεβνος*) belonging to *σέβομαι* 'reverence' (**tjegᵘ̯-**)—*σ* for *σσ* (from *ti̯*), see Chap. III., under *i̯* ; *τρίμμα* (for *τρῖβμα*).

An aspirate loses its aspiration when the next syllable begins with an aspirate—*πυθμήν*, as above ; *βόθρος* (for *ποθρος*, by association with *βαθύς*), L. *fodiō*, Goth. *badi* 'bed,' A.S. *będ* (*i*-umlaut of *a* (orig. *o*)) ; *πέποιθα* (for *φεφοιθα*). We meet however with *ἀμφίφαλος* and *ἀμφιχέω*, perhaps because these were felt to consist of two elements.

θλῑ́βω 'press' is for *φλῑ́βω*, L. *flīgō* (**bhlīgᵘ̯-**) ; *κύπτω* 'bend,' L. *cubō*, is from (**kᵘ̯ubh-**).

πτ appears initially in Greek for *π*—*πτόλις*, *πτόλεμος*, dialectic for *πόλις*, *πόλεμος*. Note also *πτέρνα* (L. *perna*), *πτίσσω* 'winnow' (L. *pinsō*), *πτερίς* 'fern' (Sk. *parṇám* 'wing, leaf,' A.S. *fearn*), Gk. *πτελέη* 'elm,' (L. *tilia* 'linden' (?)). For *πτύω* (**spi̯u-**, cp. L. *spuō*), see Chap. III., under *i̯*.

In Latin, *p* and *b* usually remain. *bh* became *ph*, and through an affricate (i.e. an explosive + related spirant), passed into *f*. Medially *bh* became *b*—*orbus* 'bereft,' Gk. *ὀρφανός*, Goth. *arbja* 'heir' (prop. 'orphan') *arbi* 'inheritance,' A.S. *yrfe* (ƀ) (*y* or *ie* = *i*-umlaut of *a*) 'inheritance,' O.H.G. *arbeo* and *ęrbo* 'heir,' *arbi* and *ęrbi* 'inheritance' (G. *erbe* 'heir' and 'inheritance') (**orbh-**) ; *tibi*, Sk. *túbhyam*.

Sometimes *b* appears initially—*barba*, A.S. *beard*, O.H.G. *bart* (G. *bart*).

bh also appears initially as *h*—*herba*, cp. Gk. *φέρβω* 'feed.'

ab (Gk. *ἀπό*), *ob* (Gk. *ἐπί*), *sub* (Gk. *ὑπό*) originally ended in tenues, retained in *aperiō* and *operiō*, but took over from *abducō*, &c., the mediae. In such words, the media was not always pronounced as written, e.g., *obtineō* is written with *b*, but pronounced as *optineō*.

Note these:—*asportō* for *apsportō*, *ostendō* for *opstendō*, *somnus* for *sopnus* (cp. *sopor*), *omnis* for *opnis* (cp. *ops*), *damnum* for *dapnum* (cp. *daps*), *scamnum* for *scabnum* (cp. *scabellum*), *Samnium* for *Sabnium* (cp. *Sabīnī*), and *amnis* for *abnis* (**abhn-**, cp. Ir. *abann*, E. *Avon*), cp. also Sk. *ámbhas* 'water' (**ambh-**).

Before speaking of the representation of the original explosives in Teutonic, it is necessary to put down something about the Old High German dialects.

There are the Upper German, consisting of varieties—Alemannic and Bavarian—proper to the highlands of Southern Germany, and the Middle German, consisting of several varieties of Franconian.

The Middle German dialects are so called because of their position between Upper and Lower German.

It is sometimes convenient, for the sake of distinctiveness, to use the term Oberdeutsch instead of Upper German.

In Teutonic, *p* shifted to *f*, and medially, when the vowel immediately preceding did not have the principal accent, to ƀ (the voiced labial spirant), by what is called Verner's Law (see Chap. VII.). This ƀ was everywhere stopped into *b* after nasals; in Gothic, it also became *b* after *r* and *l*, remaining a spirant elsewhere, though this is not brought out by the writing.

This sound remained a spirant in the other West Germanic dialects, but in High German passed into *b*, which in Oberdeutsch partially became *p*.

f stood in Anglo-Saxon, initially, for the breath, and medially (unless when geminated, or in the groups *ft fs*), for the voiced spirant.

Original *b* became *p* in Teutonic. This sound in High

German (in Rhenish Franconian only after *b* and *r*) passed initially, and after consonants, into the affricate *pf* (*ph*); between vowels it passed into *ff* (*f*). Dialectically, *pf* initial, and medial after consonants, became *f* (*ff*).

Original *bh* in Teutonic became ƀ. In Norse, on the oldest runic monuments, the spirant still appeared. When initial, this sound in Gothic and West Germanic was stopped into *b*.

The *b*, in Oberdeutsch, passed into *p*. Medially, the voiced spirant from original *bh*, shared the fate of the voiced spirant, got by Verner's Law from original *p*.

For examples of original *p* into *f*, take Goth. *fraíhnan*, A.S. *freht* 'oracle,' *frignan*; L. *precor* (**prek-**); Goth. *hliftus* 'thief' (E. (*shop*)*lifter*), Gk. κλέπτης, cp. L. *clepere*.

For *p* into *b* through ƀ take A.S. *eofor* (*eo* = *u*-umlaut; *f* to read as ƀ) 'boar' (E. *York* (*Eoforwīc*) = *Boar's Town*), O.H.G. *ebur* (G. *eber*), L. *aper* (**epró-**); Goth. A.S. and O.H.G. *sibun* (**sepṃ**), Sk. *saptá*, Gk. ἑπτά, L. *septem* (**septṃ**).

In Gothic this *b* (ƀ) owing to local causes (finally or before *s*) sometimes appears as *f*—*af* 'of' and *abu* (= *af* + *u* (enclit.-interrog. particle)).

As additional examples of original *b*, take Goth. *hilpan*, A.S. *helpan*, O.H.G. *helphan* and *helfan*; Goth. *slēpan*, A.S. *slǣpan*, O.H.G. *slāfan* (**slēb-**).

The following are examples of original *bh*—Goth. *beitan*, A.S. *bītan*, O.H.G. *biȥȥan* (**bhei̯d-**), cp. L. *findō* (**bhid-**); Goth. *bōka* 'letter,' A.S. *bōc bēce* (*ē* from *ō* by *i*-amlaut) 'beech,' O.H.G. *buocha* (G. *buche*), Gk. φηγός 'oak,' L. *fāgus*, 'beech'; A.S. *birce beorce* (*eo* = breaking) 'birch,' O.H.G. *bircha birihha* (G. *birke*) (**bherg-**), cp. Sk. *bhū́rjas*, L. *frāxinus* (*frāgtinus*) (**bhṝg-**); Goth. *kalbō* 'cow-calf,' A.S. *cealf* (*f* as ƀ, *ea* = breaking of *a* (orig. *o*)), O.H.G. *kalba* (G. *kalb*), Sk.

gárbhas ‘embryo,’ G. *δολφός* (for *βολφος*, *δ* borrowed from *δελφύς*), *δελφύς* (*ἀδελφός* = *couterīnus*) (**gu̯olbh-** and **gu̯elbh-**); A.S. *balca* (E. *baulk*), O.H.G. *balko* (G. *balken*) (**bholg-**), Gk. *φάλαγξ* ‘bar, line’ (**bhḷng-**).

Sometimes, from local causes, the ƀ got from original *bh* appears in Gothic as *f*—*liufs* ‘dear,’ *liubis* (ƀ) genit., A.S. *lēof* (E. *lief*), O.H.G. *liob* (G. *lieb*) (**leu̯bh-**), cp. L. *libet lubet* (**lubh-**).

ƀ (orig. *p*) before *i̯* becomes in West Germanic *bb.* This in Oberdeutsch passes into *pp*—O.H.G. *uppīg* ‘ill-natured’ (G. *üppig* ‘luxurious’), cp. Goth. *ufjō* ‘superfluity.’

This also happens with the ƀ that is got from original *bh*—Goth. *sibja* (ƀ) ‘relationship,’ A.S. *sib sibbe* genit., O.H.G. *sippia sippa*, Sk. *sabhā́-* ‘assembly.’

p (orig. *b*) before *i̯* (*r*, *l*, and *w*), became *pp* in West Germanic—A.S. *lippe* (L. *labium* for *lebium*).

This *pp* passed into *pf* in High German (not in Rhenish Franconian).

In the combination *sp*, original *p* remains in Teutonic—Goth. *speiwan* ‘vomit,’ cp. L. *spuō*; A.S. *wæsp*, L. *vespa* (**u̯osp-**).

For the result of I.E. *pn*, *bn*, and *bhn* in Teutonic, see Chapter on Grimm’s Law.

t: Sk. *tanṓmi*, Gk. *τείνω*, L. *tendō* (**ten-**), Goth. *ufþanjan* ‘stretch out,’ A.S. *aðęnian* (*e* from *a* (orig. *o*) by *i*-umlaut) (**ton-**), O.H.G. *dunni* ‘thin’ (**tṇnú**).

d: Sk. *svādús*, Gr. *ἡδύς*, L. *suāvis*, A.S. *swēte*, O.H.G. *suoȥi* (G. *süss*) (**su̯ād-**), Goth. *suts* (**sud-**).

dh: Sk. *ḗdhas* ‘fireplace,’ Gk. *αἴθω*, L. *aedēs* orig. ‘hearth,’ A.S. *ād* ‘funeral pile,’ *āst* ‘siccatorium’ (E. *oast-house*) ‘kiln for drying hops,’ O.H.G. *eit* (**ai̯dh-**).

The dentals were stops formed by the pressure of the front part of the tongue against the upper teeth. Gk. *θ* had an interdental position.

There is a class of dentals in Sanskrit (*ṭ*, *ḍ*, *ḍh*) called cerebrals, cacuminals, or linguals, formed by the pressure of the turned-up tip of the retracted tongue against the dome of the palate. In transcribing our dentals, Hindoos use their cerebrals.

The dentals remain in Sanskrit, subject of course to some ordinary assimilative influences. *t*, for example, changes into *ṭ* (lingual *t*) after *sh* (lingual sibilant)—*ashṭāu* (Gk. ὀκτώ); *d* becomes *j* before *j*—*majj* ‘dive,’ cp. *madgús* ‘water-fowl,’ L. *mergō* (**medgu̯-**).

Before *dh*, *d* becomes *z* and then drops, with lengthening of preceding vowel—(*dēhí* (*azdh* becoming *ēdh*) ‘give,’ 2 sing. imperat. (**ded^{z}dhí**) of *dō-* ‘to give.’

Naturally then *ddh* will give the same result as *zdh*. For example of latter combination, take Sk. *ēdhí* ‘be,’ cp. Gk. ἴσθι (see Chapter III., under *z*).

For ordinary examples of dentals in Sanskrit, take *ta-*, Gk. τό, L. (*is*)*tum*, Goth. *þa-* (as in *þata* neut. of *sa* ‘this, that, the’), A.S. *ða* (as in *ðæt* ‘that, the’) (**to-**); part. suffix *-nt*, seen in *bhárantam*, Gk. φέροντα, L. *ferentem*, Goth. *baírands*, A.S. *berende*, O.H.G. *beranti*; *sádas*, Gk. ἕδος, L. *sedeō*, Goth. *sitan*, A.S. *sittan* (*tt* = *tj*), O.H.G. *sizzen* (G. *sitzen*) (**sed-**); *chid* ‘cut off,’ Gk. σχίζω, L. *scindō* (**skhu̯id-**, **skhu̯ind-**); *śrudhí srutás*, Gk. κλῦθι κλυτός, L. *clueō inclutus*, A.S. *hlūd* ‘loud,’ O.H.G. *hlut* (**klū̆-**), cp. Sk. *śrávas* ‘sound,’ Gk. κλέ(*F*)ος, Goth. *hliuma* ‘hearing,’ A.S. *hlēoðor*, O.H.G. *hliumunt* ‘renown’ (**kleu̯-**), and A.S. *hlȳstan* (*ȳ* = *i*-umlaut of *ēa*) (**klou̯-**); Sk. *mádhu* ‘honey,’ Gk. μέθυ, A.S. *meodu* 'mead' (*eo* = *u*-umlaut of *e*), O.H.G. *metu meto* (G. *meth*) (**médhu-**).

In Sanskrit (and Greek) *dh* becomes *d* before the initial aspirate of the succeeding syllable—Sk. *dádhāti* 'places' (*dhadhāti*), Gk. *τίθησι*; *dih* 'smear,' L. *fingō figūra* (**dhigh-**), Gk. *τεῖχος*, Goth. *deigan* 'mould' (**dhei̯gh-**), Gk. *τοῖχος*, Gk. *dáigs* 'dough,' A.S. *dāg*, O.H.G. *teig* (G. *teig*) (**dhoi̯gh-**).

In Greek, *t* and *d* remain, *dh* becomes *θ*. *δ* and *θ* later on developed spirancy.

Examples of *t* are:—*ἔτος*, Sk. *vatsás* 'calf,' L. *vetus* (*vitulus* 'calf' (*ἰταλός*)), Goth. *wiþrus* 'lamb' (yearling), A.S. *weðer*, O.H.G. *widar* (G. *widder*) (**u̯et-**).

t medial often becomes *s* before *i* unless preceded by *s*—*δίδωσι* (but *ἔστι*), *φάσις* (but also by form-association *φάτις*, *πλούσιος* (but also *αἴτιος*)). Compare also *σύ* (*τύνη*), L. *tū*, cp. Goth. *ðū*.

τι̯ and *τυ̯* have been alluded to under *i̯* and *u̯*.

ts becomes first *ss* then *s*—*ποσσί ποσί* (*ποτσι*); *tth* ($t^{s}th$) becomes *sth*—*οἶσθα* (Sk. *vḗttha*).

τέθριππον 'four-horse chariot' = *τετρ̊ιππον*, *δέσποινα* = *δεσποτνι̯α*, *εἴκοσι* (**u̯ei̯kṃti**, with *o* for *a* from numerals in *-κοντα*), cp. Dor. *Ϝίκατι*.

As examples of *d* in Greek, take *χρεμίζω* 'neigh,' for *χρεμιδι̯ω*, L. *frendō fremō*, A.S. *grim* 'cruel,' *gremęttan* 'roar,' O.H.G. *grim*, (**ghᵘ̯rem-**), Gk. *χρόμος* 'noise,' Goth. *gramjan*, A.S. *grǫm* (*gram*) 'fierce,' O.H.G. *gram*, *gramizzōn* (**ghᵘ̯rom-**); Gk. *δύς-* 'mis-,' Sk. *dus*, Goth. *tuz-*, O.H.G. *zur-* (G. *zer-*).

For *δι̯* and *δυ̯* see Chapter III., under *i̯* and *u̯*.

ῥαίνω 'sprinkle' is for *ῥαδνι̯ω*, cp. *ἄρδω* 'water'; *ἴσθι* 'know' is from **u̯izdhí**, Sk. *viddhí*; *ὑστέρα* 'womb' is for ὐδτερα (‘ regular before υ, even when no consonant has been lost), cp. Sk. *udáram*, and L. *uterus* (*utero-* got from *udtero-* by influence of an *utro-* coming from *udtro-*).

γλυκύς may be an assimilation for δλυκυς, L. *dulcis* (= *dluquís*).

For example of *dh* in Greek take πενθερός (for φενθερος) ‘father-in-law,’ Sk. *bándhus* ‘a relation,’ L. *(of)fendix* ‘knot,’ Goth. *bindan*, A.S. *bindan*, O.H.G. *bintan* (G. *binden*) (**bhendh-**).

θ becomes τ before the initial aspirate of the succeeding syllable—πενθερός, as above; τίθημι for θιθημι; τεθμός ‘law,’ but also dialectically, by form-association, θεθμός; τέθητι for θεθηθι.

The forms στέμβω ‘tread’ and στέμφυλον ‘pressed olives’ indicate a root with unstable consonant, now a media, now a media aspirata.

t and *d* usually remain in Latin. *dh* after becoming a hard aspirate passed through an intermediate affricate into the dental spirant.

Afterwards this was written *f* initially, and medially, in certain surroundings, viz., before and after *r* (not in *rþu*, for example—*arduus*), before *l*, and after *u* (*u̯*), and perhaps after *m*.

f in Latin was a sound of a composite character, with dental as well as labial leanings.

Medial *f* was afterwards stopped into *b*.

Medially, in other surroundings, the dental spirant, which had presumably remained, was stopped into *d* (Oscan *f*.)

As example of *t* in Latin, take *uter* (for *quoter* (?)), Sk. *katarás*, Gk. πότερος, Goth. *hwaþar*, A.S. *hwæðer*, O.H.G. *hwedar* (**kᵘ̯otero-**).

Before *l*, *t* in Latin appears as *k*, except initially and in the complex *stl* ((*t*)*lātus*, *stlis*, also *sclis*, (*st*)*locus*)—(*sae*)*clum* 'race,' Gk. (ἄν)τλος 'bilge-water,' cp. the relation between L. *vet*(*u*)*lus* and L.L. *veclus* (It. *vecchio*). It may be mentioned that this change of *t* into *k* appears in Lithuanian and Modern Greek.

The combination *ts* appears as *ss*, which after a long syllable, and finally, passes into *s*—*concussī* for *concutsī*, *suāsī* for *suātsī*(-*ds*-), *ferēns* for *ferēnts*.

tt (t^st) appears as *ss* everywhere except before *r*.

After a long syllable this passes into *s*—*fessus* for *fettus*, *vīcēnsimus* for *vīcent*^{s}*timus*. Later *tt* remains—*cette* for *ce*(*d*)*ite*, *attulī* for *adtulī*.

Note the following transformations:—*peccō* for *petcō*, i.e., *pedcō* (*pēs pedis*), *siccus* for *sitcus* (*sitis*), *quicquam* for *quitquam*, i.e., *quidquam*, *topper* 'speedily' for *totper*, i.e., *todper* (*tod*, cp. (*is*)*tud*, Sk. *tad* neut.).

ipse is for *ispte* (*ipse* = *is* declined with suffix *pte*), but afterwards took after *iste* and *ille*); *quartus* is for *ctvartus* (**ku̯tu̯r̥̄**-) cp. Sk. *caturthás* 'fourth'; *os ossis* is for *ost*-, but has taken after *ās assis*; *vīcēnī* is for *vīcentni* (**u̯īkm̥t**-); *penna* (O.L. *pesna*) is for *petsnā*; *scāla* is for *scanslā scantslā* (*scandō*); *fastidium* is for *fastitīdium* (*fastus* 'pride' and *taedium*); *discō* is for *ditcscō*, i.e., *didcscō*, cp. Gk. διδά(κ)σκω; *rēmus* for *retmus*, Gk. ἐρετμόν.

d appears as *l* in Latin, at the beginning and middle of a few words.* Initially, the *d* is followed by a vowel, medially, it is flanked by vowels. The interchange is intelligible. There is not so much difference between the sounds, *d* being the point-stop-voice, and *l* the point-side-voice, i.e., the stoppage which is complete in the case of *d*, is dispensed with laterally in the case of *l*.

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* Conway (Brug. Jour. Vol. II., p. 163) makes this out to be a characteristic of the Sabine dialect. *Licenza*, the modern name of Horace's *Digentia*, has brought down to us the *l* of the Sabine name.

Take as examples—*lacrima*, older *dacruma*, Gk. δάκρυ, Goth. *tagr*, A.S. *tēar* (by contr. from *tæhur*), O.H.G. *zahar* (G. *zähre*) (**dakr-**) ; *lēvir* 'husband's brother' (the *i* due to association with *vir*), Sk. *dēvár-*, Gk. δāήρ = δαιϝηρ, A.S. *tācor*, O.H.G. *zeihhur* (**dai̯u̯ér- dai̯u̯r̥-**) ; *oleō*, cp. *odor*, Gk. ὀδμή ; *solium* 'seat,' cp. *sedeō*, Gk. ἕδος ; *solum* 'ground,' cp. Gk. ὁδός 'way' ; *mālus* 'mast' for *mādus*, A.S. *mæst* (**mazdos**) ; *calamitas*, cp. O.L. *cadamitas.*

Words in which *d* appears as *r*—*arbiter*, *arcessō*, *apor* = *apud*—are dialectic forms.

For *di̯* and *du̯* refer back to *i̯* and *u̯*, Chap. III.

ddh (d^zdh) passes in Latin to *st* through *zdh* and *sth*—*custōs*, cp. Goth. *huzd* 'treasure'; *hasta* 'spear,' cp. Goth. *gazds* 'goad.' *credō*, cp. Sk. *śráddhā* 'believe' (**kred-** 'heart,' **dhē- dhō-** 'put') has not undergone this process.

dt results in *ss*, and after long syllables, in *s*—*lassus* = *ladtus*, Goth. *lasts* 'lazy,' A.S. *læt* 'late,' O.H.G. *laʒ* (G. *lass*) (**ləd-**), cp. Goth. *lētan* 'let,' A.S. *lǣtan*, O.H.G. *lāʒʒan* (G. *lassen*) (**lēd-**), and Goth. *laílōt* (pt. sing.) (**lōd-**); *spissus* = *spidtus*, Gk. σπιδής 'broad' (**spid-**) ; *frūstrā* = *frūdtrā*, from *fraus* (**bhrou̯d-**, see Chap. III., under *ou*), A.S. *brēotan* 'break' (**bhreu̯d-**) ; *caesius* 'light-blue' for *caedtius*, A.S. *hādor* 'clear,' O.H.G. *heitar* (G. *heiter*) (**kᵘai̯dh-**).

Note the following transformations :—*sella* for *sedlā*, Goth. *sitls*, A.S. *setl* (E. *settle*), O.H.G. *seʒʒal* (G. *sessel* (**sed-**) ; *rāllum* for *rādlum* from *rādō* (**r̥d-**, cp. *rōdō* (**rōd-**)) ; *agger* for *adger* (*gerō*) ; *caementum* 'hewn-stone' for *caedmentum* from *caedō* (**kᵘai̯dh-**), cp. Goth. *skáidan* 'separate,' A.S. *sc(e)ādan*, O.H.G. *sceidan* (G. *scheiten*) (**sku̯ai̯dh-**), and Gk. σχίζω. L. *scindō* (**skhu̯ind-**, **skhu̯id-**); *rāmentum* 'shavings,' for *rādmentum* (*rādō*); *flāmen*, for *flādmen*, Goth. *blōtan* 'worship' (**bhlād-**).

For example of *dh* (Prim. Ital. þ) as *f*, take *fēlare* 'suck,' Gk. θῆλυς 'female' (**dhēl-**), cp. Gk. θῆσθαι 'suck,' L. *fēmina* (**dhē-**), also Goth. *daddjan* 'suckle' (**dho-**).

dh appears as *b* in *ūber*, Sk. *ū́dhar-*, A.S. *ūder* 'udder,' O.H.G. *ūtar* (G. *euter*), cp. Gk. οὖθαρ; *jubeō*, shortened from O.L. *joubeō*, for *joudheō* (*jūs*, *jous* + **dhē-** 'put'); *glaber* 'smooth,' A.S. *glæd* (E. *glad*), O.H.G. *glat* 'smooth' (G. *glatt*) (**ghu̯ladh-**); *ruber*, Sk. *rudhirás*, Gk. ἐρυθρός **rudhr-**), L. *rūfus* (**rou̯dh-**) is a dialect word); *verbum* for *vorbum*, Goth. *waúrd*, A.S. *word*, O.H.G. *wort* (G. *wort*) (**u̯r̥dh-**).

dh also appears as *b* in suffixes—L. *bro* (Ital. *fro*), Gk. θρο, e.g., *crībrum* 'sieve,' A.S. *hrīder hrīdel* (*hridder hriddel*) 'riddle,' O.H.G. *rītara* (G. *reiter*) (**krī-**), cp. Goth. *hráins* 'clean,' O.H.G. *reini* (G. *rein*) (**kroi̯-**);—L. *blo* (Ital. *flo*), θλο, e.g., *stabulum*.

As *d*, *dh* is found in *fidēlia* 'pot,' Gk. πίθος 'jar' (**bhidh-**); in *fides* 'faith' (**bhidh-**), cp. *fīdus*, Gk. πείθω (**bhei̯dh-**); in *fodiō*, Gk. βόθρος (for ποθρος), Goth. *badi*, A.S. *bed* (*i*-umlaut of *a* (orig. *o*)), O.H.G. *beti betti* (G. *bett*) (**bhodh-**); *arduus*, Sk. *ūrdhvás* 'rising,' Gk. ὀρθός (**r̥dhu̯ós**); *viduus* (for *viduvus vidovus*), Gk. ἠίθεος (ἠFιθεFος) 'bachelor,' Sk. *vidhávā* 'widow,' Goth. *widuwō*, A.S. *wid(u)we*, O.H.G. *wituwa* (G. *wittwe*) (**u̯idh-**, seen also in *dīvidō*, and Gk. ἰσθμός (= Fιθθμος)).

Notice also Oscan *Venafrum* 'hunting ground' (*vēnor* however has *ē*).

Note these:—*monstrum*, for *mondtrum* (**mondh-**), cp.

Gk. *μαθεῖν* Goth. *mundōn* 'consider' (**mn̥dh-**); *infensus*, for *infendtus* (*-fendō*, Gk. θείνω (for θενι̯ω) 'strike'); *jussī*, for *judhsī*.

In Teutonic, original *t* shifted to þ, and medially, when the vowel immediately preceding did not have the principal accent, to đ (the voiced dental spirant), by what is called Verner's Law (see Chap. VII.).

This đ was everywhere stopped into *d* after nasals; in Gothic it also became *d* after *r* and *l*, remaining a spirant elsewhere, though this is not brought out by the writing.

The West Germanic dialects changed every other đ into *d*; this *d* in Oberdeutsch (also in East Franconian) became *t*.

It should be added that þ, with principal accent preceding, became ð (represented by *th*, more rarely by *dh*) in High German, which in the Old High German period passed at various dates, beginning c. 750 A.D. in Bavaria, into *d*.

In Anglo-Saxon the characters þ and ð were used indifferently.

Original *d* becomes *t* in Teutonic. This sound in High German passed everywhere into *z*, i.e., the affricate *ts*, when initial (but not before *r*), and when post-consonantal (but not after *s*); after vowels it passed into ȥȥ(ȥ) (an *s*- sound).

Original *dh* in Teutonic becomes đ. In Norse, on the oldest runic monuments, the spirant still appeared.

When initial, this sound, in Gothic and West Germanic, was stopped into *d*.

The *d* passed into *t* in Oberdeutsch.

Medially, the voiced spirant from original *dh* shared the fate of the voiced spirant got by Verner's Law from original *t*.

For examples of original *t* in Teutonic take Goth.

wairþan, A.S. *weorðan* (*eo* = breaking of *e*), (E. *worth* vb.), O.H.G. *werdan* (G. *werden*), Sk. *vártatē* 'turns itself' (**u̯ert-**), L. *vertō vortō* (**u̯ort-**); O.H.G. *hadara* 'rag' (G. *hader*) (**k$^{u̯}$ot-**), M.H.G. *hadel* (from which French *haillon*), L. *centō* 'patch-work' (**k$^{u̯}$ent-**).

ts results in *ss* and *s*—O.H.G. *wissun* 'they knew' (**u̯itsn̥̍t**, rt.**u̯ei̯d-**); Goth. *anabusns* (for *anabutsns*) 'command,' Gk. πυθέσθαι (**bhudh-**), from *anabiudan* 'bid,' Sk. *bṓdhāmi* 'I awake,' Gk. πεύθομαι, A.S. *bēodan* (E. *bid* 'order'), O.H.G. *biotan* (G. *bieten*) (**bheu̯dh-**).

Original *tt* results in (t^st) *ss*, but not before *r*, and, after a long syllable, in *s*—O.H.G. *giwis*(*ss*) (G. *gewiss*) 'certain,' *giwissō* adv., Gk. (ἄ)ιστος 'unknown' (**u̯it^{s}tós**, rt.**u̯ei̯d-**); A.S. *ǣs* 'food, carrion,' O.H.G. *ās* (G. *aas*), L. *ēsus* 'an eating' (**ēt^{s}to-**, rt. **ed-** 'eat').

Before *r*, a *t* might give *st* (through *þt*)—A.S. *fōstor* 'food,' cp. Goth. *fōdjan* 'feed,' A.S. *fōda* 'food,' O.H.G. *fuotar* (G. *futter*) (**pāt-**), and Gk. πατέομαι, O.H.G. *fatunga* 'food' (**pat-**).

tk gives *sk*—O.H.G. *rasc* (G. *rasch*, cp. E. *rash*) (*ratku̯az*), said to be from O.H.G. *rad* 'wheel,' L. *rota* (**rot-**).

In *mþ*, an *f* seems to have been generated in High German—O.H.G. *kumft* 'a coming' (G. *-kunft*), Goth. (*ga*)*kwunþs* 'assembly.'

Other examples of the insertion of *f* in the combination *mþ*, are O.H.G. *firnunft* (G. *vernunft* 'reason'), from O.H.G. *firneman* (G. *vernehmen* 'apprehend'), and O.H.G. *zumft* (G. *zunft* 'guild,' orig. 'regulation'), from O.H.G. *zeman* (G. *ziemen* 'beseem')—both with suffix *ti* (Goth. *þi*).

For *mf* into *nf* in the above, compare *md* into *nd* (see Chap. III., under *m*).

A similar insertion of *s* is met with in the case of the combination *nþ*—O.H.G. *kunst* 'art,' cp. Goth. *kunþī* 'knowledge.'

Original *t* also appears in Teutonic as *d*, when the vowel immediately preceding does not have the principal accent—Goth. *wōds*, A.S. *wōd* (E. *wood*, Sc. *wud*), cp. A.S. *Wōden*, *wōð* 'eloquence,' *wōðbora* 'orator,' O.H.G. *wuot* (G. *wuth*), L. *vātes* (**u̯āt-**); A.S. *æned* (E. *d*(*rake*)), O.H.G. *anud* (G. *ente*), *antrahho* (G. *enterich*), L. *anas* (**anatí-**), cp. Sk. *ātís*, Gk. νῆσσα (σσ = τι̯) (**ṇ̄tí**); Goth. *hardus* 'hard,' A.S. *heard* (*ea* = breaking of *a*), O.H.G. *hart*, cp. with weak-grade vowel, Gk. κρατύς; Goth. *háidus* 'manner,' A.S. *hād* (E. *-hood*), O.H.G. *heit* (G. *-heit*), Sk. *kētús* 'form' (**kᵘoi̯tú-**); A.S. *synn* (*y* = *i*-umlaut of *u*), O.H.G. *suntea*, *sunta* (G. *sünde*), Teut. base *sunjō* for *sundjō* (**sṇti̯á**), cp. A.S. *sōð* 'true' (**sónto-**), and L. *sonticus* 'genuine.'

In Gothic, this *d* (đ) appears as þ, finally, and before *s*—*tamiþs* 'tamed,' genit. *tamidis* (đ).

In West Germanic *di̯* (đi̯), orig. *ti̯*, by gemination resulted in *dd*, which everywhere in High German shifted to *tt*—Goth. *þridja* (đ), A.S. *ðridda*, O.H.G. *dritto* (G. *dritte*), cp. Sk. *tṛtī́yas*, L. *tertius*.

t remains when associated with a preceding spirant—Goth. *ist*, O.H.G. *ist*, A.S. *is* (*t* final in an unstressed word drops), Gk. ἔστι, L. *est*; Goth. *hliftus* 'thief' (E. (*shop*)*lifter*), Gk. κλέπτης; Goth. *raíhts* 'right,' A.S. *reoht* (*eo* = breaking of *e*), O.H.G. *reht* (G. *recht*), Gk. (ὀ)ρεκτός, L. *rectus* (**rektos**).

Note the passage in a few West Germanic (and Norse) words of initial *þl* (orig. *tl*) into *f*—A.S. *flēon* 'flee,' O.H.G. *fliohan* (G. *fliehen*), Goth. *þliuhan*, and compare the change (see above) of Prim. Ital. *þr* and *þl* into *fr fl* (L. *br bl*).

For examples of original *d* in Teutonic take Goth. *tiuhan* 'draw,' A.S. *tēon* (*teu*(*h*)*on*), O.H.G. *ziohan* (G. *ziehen*), L. *dūcō* (O.L. *doucō* = *deucō*) (**deu̯k-**); Goth. *witan* 'know,' A.S. *witan*, O.H.G. *wiȥȥan* (G. *wissen*), Gk. *ἰδεῖν*, L. *videō* (**u̯id-**), cp. *ϝεῖδον* (**u̯ei̯d-**), and Sk. *vḗda*, Gk. *ϝοῖδα*, Goth. *wáit*, A.S. *wāt* (E. *wot*), O.H.G. *weiȥ* (G. *weiss*) (**u̯oi̯d-**).

In Old High German, before initial *r*, *t* (orig. *d*) remains —O.H.G. *triuwa* 'fidelity' (G. *treue*, Fr. *trève* 'truce' is borrowed from the German), Goth. *triggwa*, A.S. *trēow*; it also remains after *s*(*z*)—O.H.G. *ast* 'branch,' Goth. *asts*, Gk. *ὄζος*, cp. A.S. *ōst* (**ŏzdos**); A.S. *mæst* 'mast' ('fruit of oak,' &c.), O.H.G. *mast* (G. *mast*) (**mazdos**).

Teut. *t* (orig. *d*) before *i̯* gives by gemination *tt*, which in High German shifts to *zz*, but remains before *r*—Goth. *latjan* 'tarry,' *lats* 'slothful,' A.S. *lęttan* 'hinder,' O.H.G. *lęzzan* (G. *letzen*) (**ləd-**), cp. Goth. *lētan*, A.S. *lǣtan* 'let, O.H.G. *lāȥȥan* (G. *lassen*) (**lēd-**); O.H.G. *hlūttar* 'clear' (G. *lauter*), Goth. *hlūtrs*, A.S. *hlūttor*, Gk. *κλύζω* (= *κλυδι̯ω*) 'wash' (**klū̆d-**), cp. *cloāca* (*clovāca*) 'sewer' (**klou̯-**).

The combination *ddh* (*d*^{z}*dh*) gives in Teutonic the result *zd*—Goth. *huzd*, &c. (**kud^{z}dho-**) (see Chapter III., under *z*).

As examples of original *dh* in Teutonic take Goth. *bindan*, A.S. *bindan*, O.H.G. *bintan*, L. *offendix* 'knot' (**bhend-**); Goth. *grids*, L. *gradus* (for *gredús*) (**gh^{u}redh-**); Goth. *mizdō*, A.S. *meord* (W.S. *mēd*, E. *meed*), O.H.G. *mēta* (*ē* = contraction of *iz*) *mieta*, *miata* (G. *miethe*), Gk. *μισθός* (**mizdhó-**, **mizdhā́-**).

Sometimes, from local causes, the đ got from original *dh* appears in Gothic as þ—compare *ráuþs* 'red' with genit. *ráudis* (đ) (**rou̯dh-**).

d (orig. *dh*) before *i̯* gives by gemination *dd*, which shifts everywhere in High German to *tt*—Goth. *bidjan* ‘ask’ (đ), A.S. *biddan* (E. *bid* ‘pray’), O.H.G. *bitten* (G. *bitten*), Gk πείθω (**bhidh-**, **bhei̯dh-**).

For original *tn*, *dn*, and *dhn* in Teutonic, see Chapter on Grimm’s Law.

In all European languages the combination of original media aspirata + *t* has the same representation as original tenuis + *t*—Gk. ῥοπτός, L. *absorpsi* (**srobh-**, **sṛbh-**) ; A.S. *weft* (A.S. *wefan* ‘weave,’ O.H.G. *weban* (G. *weben*)) (**u̯ebh-**), cp. Gk. ὕφος ‘web,’ ὑφαίνω ‘weave’ (**ubh-**).

k : Sk. *veśás* ‘tent,’ Gk. οἶκος, L. *vīcus* (**u̯oi̯k-**), Goth. *weihs* ‘district’ (**u̯ei̯k-**).

g : Sk. *vā́jas* ‘quickness’ (**u̯ōg-**), Gk. ὑγιής (**ug-**), L. *vegeō* (= *vogeō*), Goth. *wakjan* ‘watch,’ A.S. *wȩccean* (*e* from *a* by *i*-umlaut), O.H.G. *wȩcchen* (G. *wecken*) (**u̯og-**).

gh : Sk. *vah* ‘carry’ (**u̯egh-**), Gk. ὄχος ‘chariot’ (**u̯ogh-**), L. *vehō*, Goth. (*ga*)*wigan* ‘move,’ A.S. *wegan*, O.H.G. *wegan* (G. (*be*)*wegen*) (**u̯egh-**).

A reference to the preliminary account given of the palatals (Chap. II.) will show that *k*, *g*, and *gh* are represented in Sanskrit by *ś*, *j*, and *h*.

Take as examples of *k*, *áśman-* ‘stone,’ Gk. ἄκμων ‘anvil’ ; *piś* ‘adorn,’ Gk. ποικίλος, L. *pīctūra*, Goth. *fáihs*, A.S. *fāh* ‘variegated,’ O.H.G. *fēh* (G. *fehe* ‘Siberian squirrel,’ ‘das Eichhornfell verschiedenfarbig war’ Weigand) (**pei̯k-**, **poi̯k-**).

A root-ending in a velar gives similar words in Teutonic —Goth. *fáih* ‘deception,’ A.S. *fāh* ‘hostile,’ O.H.G. *fēh* (G. *fehde* ‘feud’), cp. Gk. πικρός ‘sharp’ (**pei̯ku̯-**, **piku̯-**).

kt appears in Sanskrit as *shṭ—ashṭā́*, Gk. ὀκτώ, L. *octō*; *dishṭis* 'indication,' L. *dictiō*, O.H.G. (*in*)*ziht* 'accusation' (G. *zicht*), cp. Gk. δεῖξις (**dei̯k-**, **dik-**).

kth = *ksh—ṛ́kshas* 'bear,' Gk. ἄρκτος, L. *ursus* (**ṛ́kthos**).

ks appears as *ksh—dákshiṇas* 'right, clever' ('south,' cp. Deccan), Gk. δεξιός, L. *dexter*, Goth. *taíhswa* 'the right-hand,' finally as *k* (but note *shásh*, L. *sex*, Goth. *saíhs*).

sk = *ch* (*cch*)—Sk. *pṛchā́mi*, L. *pōscō* (*porcscō*, O.H.G. *forscōn* (G. *forschen*) (**pṛkskṓ**), cp. L. *precor*, Goth. *fraíhnan* 'ask' (**prek-**).

As example of *g* take *jánas* 'people,' Gk. γένος, L. *genus* (**gen-**), Goth. *kuni*, A.S. *cynn* (*y* = *i*-umlaut of *u*) (**gṇ-**).

g is represented by *h* in *ahám*, Gk. ἐγώ ἐγών, L. *egŏ*, Goth. *ik*, A.S. *ic*, O.H.G. *ih*.

gd and *gdh* become respectively *ḍ* and *ḍh*, while *gbh* results in *ḍbh*.

For examples of *gh* in Sanskrit take *bāhús* 'arm,' Gk. πῆχυς (Dor. πᾶχυς, for φᾶχυς), A.S. *bōh* (*bōg*) 'arm, bough,' O.H.G. *buog* (**bhāghú-**).

gh passes to *h* through *jh*, which in certain surroundings remains. This *jh* appears as *j* in *juhā́va* pf. 'he called to,' rt. *hū*, owing to the operation of the law for the dissimilation of aspirates, examples of which in Sanskrit and Greek have already been noted.

The palatals appear in Greek as κ, γ, χ. γ and χ later on became spirants.

Take as example of *k*, κλῦθι 'hear,' A.S. *hlūd* 'loud,' O.H.G. *hlūt* (G. *laut*), cp. Sk. *śrutás* 'heard,' Gk. κλυτός, L. *inclutus* (**klū̆**); Gk. κλί́νω, L. *clīnō*, *clītellae* 'pack-saddle' (**klei̯-**), cp. L. *clīvus* (= *cloivus*) 'slope,' Goth. *hláiw* 'sepulchral mound,' A.S. *hlǣw*, O.H.G. *lēo* (**kloi̯-**), cp. also Sb. *śri* 'go to,' Gk. *κλίμα* 'inclination,' A.S. *hlinian*, O.H.G. *hlinēn* (G. *lehnen*) (**kli-**).

ku̯ appears in *πᾶς παντός* (*ππ* into *π*), Sk. (*śá*)*śvant-* 'complete' (**ku̯ṇt-**); *θεοπρόπος* 'priest' is for *θεοπροκϜος* (*-ku̯-*), L. *procus* 'suitor' (**prok-**).

For *ἵππος*, see Chap. III., under *u̯*.

For example of *ki̯*, note *πάσσαλος* (*-κi̯-*) 'peg,' L. *paciscor* 'agree,' Goth. *fagrs* 'fit, fair,' A.S. *fæger*, O.H.G. *fagar* (**pak-**), and confer under *i̯*.

As examples of *g*, take *γιγνώσκω*, Sk. *jnā*, L. (*ī*)*gnōscō* (**gnō-**), A.S. *cnāwan* (**gnē-**) (cf. A.S. *sāwan* 'sow' (**sē(i̯)-**), Gk. *ἵημι*(*σισημι*), L. *sēmen*), L. *ingens* 'huge' ('uncouth') Goth. *kunþs* 'known,' *kunnan* 'know,' A.S. *cūð* (compens. length.) (E. *uncouth*, Sc. *unco'*), *cunnan*, O.H.G. *kund*, *chunnan* (G. *können*) (**gṇ-**), L. (*ī*)*gnārus* (**gṇ̄-**); *γεύω* 'cause to taste,' Goth. *kiusan* 'choose,' A.S. *cēosan*, O.H.G. *kiosan* (G. *kiesen*) (**geu̯s-**), cp. Sk. *jush* 'enjoy,' L. *gustō* 'taste,' A.S. *cyssan* (*y* = *i*-umlaut of *u*), 'kiss' (**gus-**), and Goth. *káusjan* 'taste' (**gou̯s-**); *ἔργον*, A.S. *weorc* (*eo* = breaking of *e*), O.H.G. *werc* (G. *werk*) (**u̯erg-**), cp. Goth. *waúrkjan*, A.S. *wyrcean* (*y* = *i*-umlaut of *u*), O.H.G. *wurchen* (G. *wirken*) (**u̯ṛg-**).

For *gi̯*, confer under *i̯*.

gh is to be seen in the following:—*χιών* 'snow' (**ghióm-**), L. *hiems* (**ghiem-**), Sk. *himás* (**ghim-**); *ἔχω* (*σχήσω*), Sk. *sah* 'support,' Goth. *sigis* 'victory' (two roots have been fused in *ἔχω*, viz., *u̯egh-* and *segh-*); *χαμαί* 'on the ground,' Goth. *guma* 'man,' L. *hemō* (**ghṃ-**), L. *humus*, *homō* (**ghom-**), *χ*(*θ*)*ών* (**ghōm-**).

For *ghi̯*, see under *i̯*.

ἐκεχειρίᾱ (*ἔχω*, *χείρ*) 'armistice' illustrates the law of the dissimilation of aspirates.

In Latin, the palatals appear as *c*, *g*, *h* and *g*.

c was pronounced hard, even before *e* and *i*, down to the Middle Ages.

In Umbrian, Ital. *k* (I.E. **k** and **ku̯**) was assibilated. Compare with this the change wrought on Latin *c* in the Romance languages.

Take as examples of *k* in Latin :—*porcus*, A.S. *fearh* 'pig' (E. *farrow*), O.H.G. *farah* (G. *ferkel* dimin. 'sucking pig') ; *juvencus* 'young,' Sk. *juvaśás*, Goth. *juggs* (for *juvungas*), A.S. *geong*, O.H.G. *jung* (**i̯uu̯n̥kó-**).

ku̯ appears in *canis*, Sk. *śvā́*, gen. *śúnas*, Gk. κύων κυνός, Goth. *hunds*, A.S. *hund*, O.H.G. *hunt* (G. *hund*) (**ku̯on-, kun-**).

For *ki̯* see under *i̯*.

dīgnus is for *decnos*, cp. *decus* ; *g* also appears for *c*, in *septingenti*, *nongentī*, &c., cp. *ducentī*. The *g*, however, is by some held to be original in these two words.

pulcher is dialectic for *pulcer*, *polcer*, (**pl̥ku̯**), cp. *placeō* 'please' (**ploku̯**) and *plācō* 'appease (**plōku̯**) ; *nīxus* is for *gnīcttos* (**gnīgu̯-**) ; *texō*, Sk. *taksh* 'fashion,' Gk. τέκτων 'carpenter,' O.H.G. *dehsen* 'shape' are from (**tekth-**) ; *misceō* is for *micsceō*, cp. Gk. μίγνυμι ; *mulsī* for *mulxī*, cp. Sk. *marś* 'touch' (**melk-**) ; *pāstum* for *pasctum*, from *pascō* ; *pōscō* for *porcscō* (*pōstulō* = *pōscitulō*) ; *sescēnī* for *sexcentnī*.

As examples of *g*, take *argentum* (**r̥gento-**), cp. Gk. ἀργός 'white' (**r̥g-**), and Goth. *unaírkns* 'unholy,' A.S. *eorcan* (*stān*) (*eo* = breaking of *e*) 'precious stone,' O.H.G. *erchan* 'right, pure' (**erg-**).

exāmen is for *exāgmen* (*ex*, *āgmen*) ; *pālus* 'stake' is for *paxlus* (cp. *paxillus* 'peg') (**pag-s-**), cp. *pangō* (**pang-**) and πήγνῡμι (**pāg-**) ; *narrō*, *nāscor*, *nāvus*, *nōscō*, &c., have lost *g*.

gh appears in Latin initially (not before *r*) and medially (except after and before nasals, and before *l*) as *h*. Initial *gh* before *r*, or medial *gh* followed by *l*, or with preceding or following nasal, is represented by *g*. Dialectically, there is an *f*-representation.

For examples of *h* take these:—*hortus* 'garden,' Gk. χόρτος 'fodder, feeding-place'; *hariolus haru*(*spex*, from *speciō*) 'diviner, inspector of entrails,' Gk. χορδή 'gut' (**ghṝ-**), Sk. *hirā́* 'gut' (**ghṛ-**) A.S. *gearn* (*ea* = breaking of *a* (orig. *o*)), O.H.G. *garn* (G. *garn*) (**ghor-**): *mihi*, Sk. *máhyam*; *vehō*, Goth. (*ga*)*wigan* 'move,' A.S. *wegan* (E. *weigh*), O.H.G. *wegan* (G. *wegen*) (**u̯egh-**).

Of *g* representing *gh*, the following are examples:—*grāmen* 'grass,' A.S. *grōwan*, *grēne* (*ē* by *i*-umlaut) 'green,' O.H.G. *gruoni* (G. *grün*) (**ghrā-**), cp. Goth. *gras* 'grass,' A.S. *gærs* (*græs*), O.H.G. *gras* (**ghra-**); *lingō* 'lick' (sometimes written *linguō*, owing to a reference to *lingua*), A.S. *liccian* (*licjan*) (**li(u)gh-**), cp. Gk. λείχω (**lei̯gh-**); *magnus* (for *megnós*), Sk. *mahā́n*, Gk. μέγας, Goth. *mikils* 'much,' A.S. *mycel micel* (the *y* is due to the analogy of *lytel*) (E. *much*), O.H.G. *mihil mihhil* (**meg-**); *pinguis* (for *penguis*), Gk. παχύς (**pṇghu̯-**).

h (orig. *gh*) disappeared before *i̯*, and often when between vowels:—*mājor* for *mahi̯or* (*magis* has appropriated the *g* of *magnus*); *ājō* for *ahi̯ō*; *lien*, cp. Sk. *plīhán*; *bīmus* for *bihimus*; *nēmō* for *nehemō*; *prendō* for *prehendō*; *praebeō* for *praehibeō*; *diribeō* from *dis* and *habeō*, &c.

vēlum 'covering' is for *veslum* (cp. *vestis* = *vostis*, Goth. *wasjan* 'clothe,' A.S. *węrian* (*e* = *i*-umlaut of *a* (orig. *o*)) (**u̯os-**), cp. Gk. ἕννῡμι (Ϝεσνῡμι) (**u̯es-**)); *vēlum* 'sail,' for *vexlum* (cp. *vexillum*), from *vehō*.

f, representing orig. *gh*, appears in *fovea* 'pit,' Gk. χειά 'hole' (**gheu̯iā́**), in *fariolus* for *hariolus*, and perhaps in *fundo* (**ghund-**), Gk. χέ(*F*)ω, Goth. *giutan*, A.S. *gēotan* (E. (*in*)*got*, O.H.G. *gioȥan* (G. *giessen*) (**gheu̯**(**d**)-)

In Teutonic, original *k* shifted to *h*, through intermediate voiceless spirant χ. Initially, *h* is simply an aspirate (but not in Gothic before consonants); medially, between vowels, this is also the case, but when a consonant follows, or the *h* is final, the sound is that of the guttural spirant (G. *ch*).

Medially, when the vowel immediately preceding did not have the principal accent, *k* shifted to ȝ (the voiced guttural spirant), by the operation of what is called Verner's Law. This ȝ was everywhere stopped into *g* after nasals; in Gothic, it also became *g* after *r* and *l*, remaining a spirant elsewhere, though this is not brought out by the writing. In the other West German dialects, this sound remained a spirant, but in High German it passed into *g*, which in Oberdeutsch partially became *k*.

Original *g* became *k* in Teutonic. This sound when initial, and when post-consonantal (except after *s*) passed in the Upper German dialects into *k*χ (written *cch*, *ch*, &c.), but remained in the Middle German dialects. Between vowels it everywhere became χ (written *hh*, *h*).

Original *gh* became ȝ in Teutonic. When initial, this sound was ultimately stopped into *g*. In Norse, on the oldest runic monuments, the spirant still appeared; but in Gothic, as was the case with the labial and dental spirants (orig. *bh* and *dh*), it was stopped into the full consonant at an early date. In Old Saxon and Anglo-Saxon, ȝ remained down to historic times.

In Oberdeutsch the *g* (stopped ȝ) passed into *k* (*c*).

Medially, the voice spirant got from original *gh* shared the fate of the voiced spirant got by Verner's Law from original *k*.

For examples of *k* in Teutonic take A.S. *hring*, O.H.G. *ring*, Gk. *κρίκος κίρκος*, L. *circus* (**krikós** and **krinkós**); Goth. *hlahjan* 'laugh,' A.S. *hliehhan* (*ie* = *i*-umlaut of *ea* = palatal umlaut of *a* before *h*), O.H.G. *hlahhan* (G. *lachen*), *κλώσσω* (*κλωκι̯ω*), L. *glōcire* (**klō̆k-**) (?); A.S. *hȳd* (*ȳ* = *i*-umlaut of *u*) 'hide,' O.H.G. *hūt* (G. *haut*) (**kūtí-**), cp. Gk. *κύτος*, L. *cutis* (**kut-**); Goth. (*ga*)*teihan* 'announce,' A.S. *tēon* (contd. from *tīhon*) 'censure,' O.H.G. *zīhan* (G. *zeihen*), Gk. *δείκνῡμι*, L. *dīcō* (O.L. *deicō*) (**dei̯k-**); A.S. *seax* 'knife' (orig. made of flint), O.H.G. *sahs* (G. *messer* 'knife' = O.H.G. *meȥȥiras meȥȥisahs* from O.H.G. *maȥ* (A.S. *mȩte*), *sahs* 'Speiseschwert'), L. *saxum*; A.S. *feax* (*x* = *hs*) 'hair' (E. *fax*(*wax*) *pax*(*wax*), (*Fair*)*fax*), O.H.G. *fahs* (**pok-**), L. *pectō*, Gk. *πέκω* (**pek-**).

For an example of the *k* that under the operation of Verner's Law became *g* in Teutonic, instead of *h*, take Goth. *fagrs* 'suitable,' A.S. *fæger* 'fair,' O.H.G. *fagar* (G. *fegen* vb. 'purify' (**pak-**); Goth. *tigus* (ʒ), A.S. *-tig*, O.H.G. *-zig* (**dekm̥**, with suffix accented), cp. Goth. *taíhun*, A.S. *tīen* *īe* = contraction and *u*-umlaut from *teo*(*h*)*un*, the breaking of *tehun*), O.H.G. *zehan* (G. *zehn*), Sk. *dáśa*, Gk. *δέκα*, L. *decem* (**dékm̥**, with accent on first syllable).

The ʒ got by operation of Verner's Law by gemination became *gg* before *i̯* in West Germanic, which *gg* became *ḳk* in Oberdeutsch—A.S. *ęcg* 'edge' (*cg* = *gg*), O.H.G. *ękka* (G. *eck*), L. *acies* (**ak-**).

k remains in the combination *sk*—Goth. *skeinan* 'shine,' A.S. *scīnan*, O.H.G. *scīnan* (G. *scheinen*) (**skei̯-**), cp. with weak root, Gk. *σκιᾱ́*, and Sk. *chāyā́* 'shadow.'

To illustrate the representation of *g* in Teutonic, take Goth. *kniu*, A.S. *cnēo*, O.H.G. *chniu chneo* (G. *knie*) (**gneu̯-**), cp. Gk. γόνυ (**gónu**), Sk. *jā́nu* (**gṓnu**), L. *genū* (**gn̥ū**) ; Goth. *kaúrn* 'corn,' A.S. *corn*, O.H.G. *chorn* (G. *korn*) (**gr̥no-**), cp. L. *grānum* (**gr̥no-**) ; Goth. *brikan*, A.S. *brecan*, O.H.G. *brehhen* (G. *brechen*), L. *frangō* (=*frengō*) (**bhreg-**).

The *k* got from I.E. *g*, associated with *i̯*, gives *kk*, which appears in Oberdeutsch as *kχ* (written *cch* and *ch*)—see typical examples of palatals.

This gemination also takes place in High German before *r*—*acchar*, Goth. *akrs*, Gk. ἀγρός, L. *ager*.

Original *gh* is represented in the following :—A.S. *gōs* (*ō* by compens. length. for loss of *n*) O.H.G. *gans*, Sk. *hansás*, L. *ānser* for *hānser*, Gk. χήν χηνός (χανσος) (**ghans-**) ; Goth. *gáits*, A.S. *gāt*, O.H.G. *geiȥ* (G. *geiss*), L. *haedus* (**ghaídos**) ; Goth. *gaggs* 'way, street,' A.S. *gang*, O.H.G. *gang*, Sk. *janghā́* 'heel-bone' (**ghenghu̯-**, **ghonghu̯-**) ; Goth. *maíhstus* 'dung,' A.S. *meox* for *meoxt* (?) (*eo* = breaking of *i*), O.H.G. *mist* for *mihst* (G. *mist*) (**migh-**), cp. L. *mingō* (**mingh-**), Sk. *mēhāmi*, 1 sing. pres. ind., L. *mējō* for *mei̯hō*, A.S. *mīgan* (**mei̯gh-**), Gk. (ὀ)μῑχέω (**mīgh-**), Goth. *dáigs* 'dough,' A.S. *dāg*, O.H.G. *teic* (G. *teig*), Gk. τοῖχος 'wall' (**dhoi̯gh-**), cp. Sk. *dēhī́* 'wall,' Gk. τεῖχος, Goth. *deigan* 'knead' (**dhei̯gh-** 'smear, knead, form') L. *figūra fingō*, Goth. (*ga*)*digis* 'creature' (**dhigh-**) ; A.S. *īl* (= *igel*) 'hedgehog,' O.H.G. *igil* (G. *igel*), Gk. ἐχῖνος (**egh-**).

Sometimes, from local causes, the ʒ got from orig. *gh* appears in Gothic as χ—cp. *vigs* (χ) 'way,' nom., with *vigis* (ʒ), gen.

g (orig. *gh*) before *i̯* gives by gemination *gg*, which in Oberdeutsch shifts to *kk*—Goth. *ligan* (new formation for *ligjan*), A.S. *licgan*, O.H.G. *likken* (*licken*, *liggen*) (G. *liegen*), Gk. λέχος (**legh-**).

For orig. *kn*, *gn*, and *ghn* in Teutonic, see Chap. VII.

k(ᵘ̯) : Sk. *cṛtā́mi* 'I tie together,' Gk. κάρταλλος 'basket,' Goth. *haúrds* 'door,' A.S. *hyrdel* (*y* = *i*-umlaut of *u*) 'hurdle,' O.H.G. *hurt* 'plait-work' (**kᵘ̯ṛt-**), L. *crātes* (**kᵘ̯ṝt-**).

kᵘ̯ : Sk. *ca*, Gk. τε, L. *que*, Goth. (*þáu*)*h*, A.S. (*ðēa*)*h*, O.H.G. (*do*)*h* (*o* from *ō*, owing to enclisis) (G. *doch*) (**kᵘ̯e-**).

g(ᵘ̯) : Sk. *ṓjas* 'strength,' L. *augeō*, Goth. *áukan* 'increase,' *áuk* 'also,' A.S, *ēacen* 'increased,' *ēac* (E. *eke*), O.H G. *ouhhōn*, *ouh* (G. *auch*) (**augᵘ̯-**).

gᵘ̯ : Sk. *jīvás* 'living,' βίος (β before *i* is strange, see below), L. *vīvus*, Goth. *kwius*, A.S. *cwic* (E. *quick*), O.H.G. *quec* (G. *keck*) (second *c* 'Zusatz vor dem got. *w*' Kluge) (**gᵘ̯ǐu̯-**). There is a guttural in *vixī* (got from related *vigeō*, see American Journal of Philology, xiii. 2., p. 226), so that perhaps the guttural is original.

gh(ᵘ̯) : Gk. στείχω 'walk,' L. *vestīgium* (?), Goth. *steigan* 'ascend,' A.S. *stīgan*, O.H.G. *stīgan* (G. *steigen*) (**stei̯ghᵘ̯-**).

The Letto-Slavic cognate does not assibilate, a fact which makes for the velar character of this guttural.

ghᵘ̯ : Sk. *gharmás* 'warmth,' Gk. θερμός, L. *formus*, A.S. *wearm* (*ea* = breaking of *a* (orig. *o*)), O.H.G. *warm* (Teut. (ʒ)*u̯armaz*) (**ghᵘ̯erm-**, **ghᵘ̯orm-**).

The velars appear without any labial modification in Sanskrit, and are represented by the guttural characters *k*, *g*, *gh*, except before original *e-* and *i*-vowels, where they are represented by the palatals *c*, *j*, and (*jh*) *h*. It was after this palatalisation that *e* and *ē* passed into *a* and *ā*.

What was said about velars at the beginning of Chap. II. need not be repeated here.

For examples of the guttural representation in Sanskrit take *kṛtás* 'made,' cp. Gk. *κραίνω* 'accomplish,' and L. *creare* (?), *cerus* 'creator' (Festus); *gā́ús*, Gk. *βοῦς*, L. *bōs* (from Oscan dialect, the regular Latin form would begin with *v*), A.S. *cū*, O.H.G. *chuo* (G. *kuh*) (**g$^{u̯}$ōu̯-**) ; *dīrghás* 'long,' Gk. *δολιχός*, L. *largus* = *lalgus*, *dalgus* (the *r* by dissimilation) (**dḷgh$^{u̯}$ós**), cp. Goth. *tulgus* 'firm' (**dḷgh$^{u̯}$os**) ; *drōghás* 'perfidy,' A.S. *drēam*, O.H.G. *troum*, *triogan* 'deceive' (G. *trügen*) (**dhreu̯gh$^{u̯}$-**, **dhrou̯gh$^{u̯}$-**).

The following are examples of the palatalised velars—*vā́cas* gen. 'of a word' (nom. *vā́k*, I.E. *-es* stem), L. *vōx* (**u̯ōk$^{u̯}$**), L. *vocō* (**u̯ok$^{u̯}$-**), Gk. *ἔπος* (**u̯ek$^{u̯}$**) ; Sk. *jatu* 'gum' (E. *gutta*(*percha*)), L. *bitūmen* (for *b* cp. L. *bōs*), A.S. *cwidu* 'resin,' O.H.G. *chuti*, *quiti* (G. *kitt* 'putty') (**g$^{u̯}$etú-**) ; *jyā́* 'bowstring' (**g$^{u̯}$i̯ā**), cp. Gk. *βιός* 'bow' (**g$^{u̯}$ii̯á**) ; *hánti* (for *jhanti*) (**gh$^{u̯}$enti** 'he strikes'), Gk. *θείνω* (= *θενι̯ω*), L. *offendō* (?), cp. *φόνος* 'murder.'

The workings of analogy have often given rise to gutturals, instead of palatals, and *vice versā*.

The velars without labial modification are represented in Greek by *κ*, *γ*, *χ*. Take as examples :—*καρπός* 'fruit,' Sk. *kṛpāṇas* 'sword' (**k$^{u̯}$ṛp-**), L. *carpō* (**k$^{u̯}$ṝp-**), A.S. *hærfest*, O.H.G. *he̯rbist* (G. *herbst*) (Teut. *harƀ-*) (**k$^{u̯}$orp-**) ; *κλη*(*F*)*ίς*, L. *clāvis* (see under *āu*), cp. O.H.G. *slioȥan* (G. *schliessen*, G. *schloss*, E. *slot*,) (Teut. *sleu̯t-*, from *skleu̯t-*) ; *κόκκυξ* 'cuckoo,' L. *cucūlus* (**k$^{u̯}$uk$^{u̯}$-**), cp. Sk. *kṓkas* (**k$^{u̯}$ou̯k$^{u̯}$-**) ; *ἐρεύγομαι* 'vomit,' L. *rūctō* (**reu̯g$^{u̯}$-**), A.S. *roccettan*, O.H.G. (*ita*)*rucchen* 'vomit again' (**rug$^{u̯}$-**) (Kluge connects with these M.H.G. *riuspern* (G. *räuspern* 'clear the throat'), '*k* vor der Ableitung *sp st* ausfiel'); ἔχαδον 'seized' (χανδάνω has the nasal of the suffix reflected in the root) (**ghᵘ̯ṇd-**), L. (*pre*)*hendō* (**ghᵘ̯end-**), L. *praeda* (for *praehedā*), Goth. *-gitan* 'get,' O.H.G. (*fir*)*giʒʒan* (G. (*ver*)*gessen*) (**ghᵘ̯ed-**).

With labial modification *kᵘ̯* appears in Greek as π before *o*-vowels, before lingual and nasal vowels, before liquids and nasals, and before τ, θ, ς. Before ε and ι it appears as τ.

Examples of π are :—(ποδ)απός, L. (*long*)*inquus*; λείπω, Goth. *leihwan* 'lend,' A.S. *lēon* (contraction for *līhan*), O.H.G. *līhan* (G. *leihen*) (**lei̯ku̯-**), L. *linquō* (**linku̯-**); ἧπαρ ἥπατος (α = ṇ) (**i̯ēkᵘ̯ṛ-, i̯ēkᵘ̯ṇ-**), Sk. *yákṛt* (**i̯ekᵘ̯ṛt-**), L. *jecur jecinoris* (**i̯ekᵘ̯ṛ-, i̯ekᵘ̯ṇ-**); πόλος 'axis' (**kᵘ̯ol-**), cp. Sk. *char* 'move,' πέλω 'go' (π by analogy) (περιπλομένων ἐνιαυτῶν with reduced root), L. *colō* (= *quelō*), *inquilīnus* 'settler' (**kᵘ̯el-**); ἐπριάμην, Sk. *krī* 'buy'; πεπτός, Sk. *paktás*, L. *coctus* (= *quectos*) (**kᵘ̯eku̯-, peku̯-**); χέρνιψ 'water for hands,' Sk. *niktás* (**nigu̯-**)).

As example of τ, take τε, as above among typical examples, and τίσις 'atonement,' Sk. *ci* 'observe' (**kᵘ̯i-**), cp. ποινή 'fine' (**kᵘ̯oinā́**).

kᵘ̯ after or before υ (was the υ generated by the labial modification?) appears in Greek as κ—λύκος, Sk. *vṛ́kas*, L. *lupus* (dialectic for *luquus*), Goth. *wulfs*, A.S. *wulf*, O.H.G *wolf* (**u̯ḷ́kᵘ̯os**), cp. ἕλκω 'draw' (**u̯elku̯-**); κύκλος (κϜεκϜλος), Sk. *cakrás*, A.S. *hweogel*, *hwēol* (Teut. *hwegwlá-*) (**kᵘ̯ekᵘ̯ró-**).

With labial modification, *gᵘ̯* appears in Greek as β, before *o*-vowels, before lingual and nasal vowels, and before liquids and nasals. Before ε it appears as δ.

Examples of β are :—βορᾱ́ 'food' (**gᵘ̯ṝ-**), βιβρώσκω (**gᵘ̯ṝ-**), L. *vorare* (**gᵘ̯or-**); βαρύς, Sk. *gurús*, Goth. *kaúrus* 'heavy' (**gᵘ̯ṛú-**), L. *gravis* (= *grovis*) (**gᵘ̯rou̯-**); ἀδένος (nom. ἀδήν) 'gland,' L. *inguen* 'groin' (**ṇgu̯én-**); ἀμνός 'lamb,' said to be for ἀβνος, cp. L. *āgnus*.

μνᾱ́ομαι derives from *βνᾱ 'wife' (**gu̯nā**), cp. Bœotian βανᾱ́ 'woman' (**gu̯ṇnā**).

As example of δ take Arcad. δέρεθρον (also ζέρεθρον, so that δε- from $g^{\text{u̯}}$ must have been something different from ordinary δε-), Attic βάραθρον 'pit,' cp. βορᾱ́ βιβρώσκω.

$g^{\text{u̯}}$ in the neighbourhood of υ appears as γ—γυνή (= γϝενη), Goth. *kwinō* 'woman, wife,' A.S. *cwene*, O.H.G. *quena* (**gu̯enā**), cp. Sk. *-jāni-* 'wife' (cf. *jánis* 'wife') Goth. *kwēns*, A.S. *cwēn* (E. *queen*, *quean*) (Teut. *cwōniz*, see under *ē*) (**gu̯ēni-**); ἐλαχύς and ἐλαφρός; (βου)κόλος and (αἰ)πόλος.

Does πρέσβυς (the β due to analogy of πρέσβιστος; a form πρέσγυς also occurs) contain the masculine of which γυνή is the feminine?

With labial modification, $gh^{\text{u̯}}$ appears in Greek as φ, before *o*-vowels, before lingual and nasal vowels, and before liquids and nasals. Before ε it appears as θ.

Examples of φ are:—φόνος 'murder,' cp. Sk. *hánti* 'strikes,' as above; νεφρός 'kidney,' Ital. *nefrōnes nebrundines*, M.E. (*kid*)*neer* (A.S. *cwið* 'womb,' Prov. E. *kite*) (E. *kidney*), O.H.G. *nioro* (G. *niere*) (**neghu̯r-**); ἐλαφρός 'light,' A.S. *lungre* 'quickly,' O.H.G. *lungar* 'quick' (G. *lungern* 'long after, idle about') (**ḷnghu̯ró-**), cp. Sk. *laghús*, Gk. ἐλαχύς, A.S. *lungen* 'lung,' O.H.G. *lunga* (G. *lunge*) (**ḷnghu̯ú-**), also Goth. *leihts* 'light,' A.S. *leoht* (*ī* shortened to *i* before breaking), O.H.G. *līht* (G. *leicht*) (Teut. *līhta* for *linχta*, *lenχta*) (**lenghu̯-**), perhaps also L. *levis* (**leghu̯-**).

As example of θ, take θείνω 'strike,' cp. φόνος.

Dialectically θ sometimes appears as φ—Æolic φήρ = θήρ.

$gh^{\text{u̯}}$ in the neighbourhood of υ appears as χ—ἐλαχύς, as above; for *kh*$^{u̯}$ as χ take ὄνυξ ὄνυχος, Sk. *nakhás*, Goth. (*ga*)*nagljan* 'nail,' A.S. *nægel*, O.H.G. *nagal* (G. *nagel*) (**nokh$^{u̯}$-**), L. *unguis* (**onkh$^{u̯}$-**).

Some new formations, got by analogy, intermix the various representations of the original sounds—βέλος and δολφός after βάλλω and δελφύς.

The velars without labial modification are represented in Latin by *c*, *g*, *h* and *g*.

Take as examples: L. *capiō*, Goth. *hafjan* 'heave,' A.S. *hębban*, O.H.G. *hęffen* (**k$^{u̯}$ap-**) (but see Wharton's Etyma Latina, where *capiō* is said to be for *cepiō* (**k$^{u̯}$ep-**), and **k$^{u̯}$op** put down as root of Teutonic forms, and Gk. κώπη 'handle' instanced as example of another ablaut (**k$^{u̯}$ōp-**)); *coxa* 'hip,' Sk. *kákshas* 'armpit,' O.H.G. *hahsa* (G. *hechse*, *hächse*) 'bend of the knee' (**k$^{u̯}$oks-**); *canō*, Goth. *hana* 'cock,' A.S. *hǫna* (*hana*), O.H.G. *hano* (G. *hahn*); *urna* for *urcnā*, cp. *urceus* (= *vurceus*) (**ụṛk$^{u̯}$-**); L. *gelu* (**g$^{u̯}$el-**), Goth. *kalds*, A.S. *ceald* (*ea* = breaking of *a* (orig. *o*)), O.H.G. *kalt* (**g$^{u̯}$ol-**); *hostis*, Goth. *gasts*, A.S. *giest* (*ie* = *i*-umlaut of *ea*, the palatal umlaut of Teut. *a*), O.H.G. *gast* (G. *gast*) (**gh$^{u̯}$ostis**); L. *gradus* (= *gredús*), Goth. *grids* (**gh$^{u̯}$redh-**).

The different treatment of *ku̯* and *k*$^{u̯}$ in Greek—ἵππος (?), Sk. *áśvas*, L. *equus* (**éku̯os**), and ἔλιπον (**elik$^{u̯}$on**)—proves that the velar modification was not a full *u̯*. Compare the Umbrian representation of *k*$^{u̯}$ by *p*, and of *ku̯* by *kv*.

With labial modification, *k*$^{u̯}$ appears in Latin as *qu*, before all vowels, save *u*, where *c* appears—*quis*, Gk. τίς, Sk. *kím* neut. (with *k* for *c*, taking after the masculine *kás*) (**k$^{u̯}$i-**) cp. *kás* 'who?' Gk. πότερος, Goth. *hwaṡ*, A.S. *hwā* = *hwar* (*a* in stressed monosyllables, final owing to loss of consonant, is lengthened) O.H.G. *hwaȥ* (G. *was*) (**k$^{u̯}$o-**).

que before consonants results in *co* (cp. *so* for *sue*—*soror* = *su̯esōr*)—*coquō* = *quequō*, Gk. πέπων 'ripe' (**k$^{u̯}$eku̯-**); *colō* = *quelō*, as above.

The *i* in *linquis* (Gk. ἔλιπες), and in *sequiso*, afterwards *sequere* (Gk. ἕπε(σ)ο), proves that the change of *que* into *co* did not precede the weakening of *e* into *i* in unaccented syllables.

quo passes into *cu*—*sequontur* into *secuntur*, *quom* into *cum*, *equos* into *ecus*; *sequuntur*, *equus*, &c. were later formations, due to the analogy of *sequitur*, *equī*, &c.

Finally, *qu* becomes *c*—*nec* from *neque*, *ac* (for *atc*) from *atque*.

Before Prim. L. *u* and consonants *k*$^{u̯}$ appears as *c*—*arcu*-stem of *arcus* and *arquitenens*; *insectiones* 'narrations' *insexit* and *inseque* (also *insece*, imperative 'tell,' cp. Gk. ἔννεπε for ἐνσεπε, A.S. *sęcgan* (*cg* for *gg*, by gemination), from *sagjan*). In *jecur jecinoris*, this *c* also occurs (see above), and in *oculus*, Gk. ὄσσε (ὀκi̯ε), ὄμμα (ὀπμα) (**oku̯-**). Before orig. *i*, *c* also appears—*socius* and *sequor*.

The enclitic *-pe* in *nempe*, *prope*, *quippe*, *quispiam*, is dialectic for *que*.

With labial modification, *g*$^{u̯}$ appears in Latin as *gu* after *n*—*unguō* (and *ungō*), O.H.G. *ancho* (G. *anke* 'butter'); initially, before vowels (except *u*), and medially, between vowels, as *v*—*veniō*, Gk. βαίνω (for βαμi̯ω) (**g$^{u̯}$m̥-**), Goth. *kwiman*, A.S. *cuman* (= *cwiman*, O.H.G. *queman* (*chweman*) (G. *kommen*, *bequem* 'convenient') (**g$^{u̯}$em-**); *vivus*, as above among typical examples; *vescor* (= *voscor*), Gk. βόσκω 'feed,' (**g$^{u̯}$oskō**); *vetō* (= *votō*) is quoted by Wharton as belonging to a root **g$^{u̯}$ot-**, with which stands in ablaut-relation Goth. *kwiþan*, A.S. *cweðan* (**g$^{u̯}$et-**); *nūdus* (= *no*(*g*)*u̯edos*), Goth. *nakwaþs*, A.S. *nacod*, O.H.G. *nacchut*, *nahhut* (G. *nackt*) (the double sound represents O.H.G. transmutation of West Germanic gemination *kk*, a result that was produced when *k* (from orig. *g*) was followed by *i̯* (and *r*, *l*, *w*)) (**nogᵘ̯otó-**). *bōs* is a loan-word from an Oscan dialect; the Latin form would be *vōs*.

This *v* drops after *u*—*fluō*=*flugvō* (**bhlugu̯-**), but *fluvius* (*vi* = *u̯i̯*); *fruor* (=*frūor*, *frūgvor*), *frūx frūgis*, Goth. *brūks* 'useful,' A.S. *brūcan* (E. *brook*) 'enjoy,' O.H.G. *brūhhan* (G. *brauchen*) (**bhrūgu̯-**).

Before *u* and a consonant, labialisable *gᵘ̯* appears as *g*—*gula* 'throat' (**gu̯ḷl-** ?), A.S. *ceole* (*eo*=*o*-umlaut of *e*), O.H.G. *chela* (G. *kehle*) (**gu̯el-**); *migrō*, Gk. ἀμείβω (**mei̯gu̯-**); *glāns* (**gu̯ḹ-**), cp. βάλανος (**gu̯ḷ-**).

fībula 'buckle'=*fīvibula*, from *fīvō*, form of *fīgō* found in Cato (A.S. *fīfele* is borrowed) (**dhīgu̯-**), *nītor* = *gnīvitor* (**gnīgu̯**); *ūmeō* is for *ūvimeō*, cp. *ū*(*g*)*vidus*, Gk. ὑγρός (**ugu̯-**).

With labial modification, *ghᵘ̯* appears in Latin as *gu* after *n*—*anguis* 'snake' (**ṇ̄ghu̯í-**), A.S. *ȳce* (*ȳ*=*i*-umlaut of lengthened *u*), O.H.G. *unc* (G. *unke*) (**ṇghu̯-**), cp. (?) *anguilla* 'eel,' and Gk. ἔγχελυς (**enghu̯-**); as *v* between vowels—*nivem*, 'snow' (cp. *ninguit*), Gk. νίφα acc. sing. fem. (**sni(n)ghu̯**), Goth. *snáiws*, A.S. *snāw* (*snā*), O.H.G. *snēo* (G. *schnee*) (Teut. *snaiȝwa-*) (**snoi̯ghu̯-**); *brevis* 'short' (**mreghu̯-**) sometimes ranked with βραχύς, Goth. *gamaúrgjan* 'shorten, A.S. *myrge* (*y*=*i*-umlaut of *u*) 'pleasant' (for induced meaning cp. *pastime*), O.H.G. *murgfāri* 'transitory' (**mṛghu̯-**); *levis*, see above.

Initially, and medially, before *r*, *ghᵘ̯* appears as *f* (medially also as *b*)—*friō* 'rub,' Gk. χρῑ́ω 'anoint' (**ghᵘ̯rī̆-**), *fremō* 'roar,' Gk. χρεμίζω 'neigh,' A.S. *grimm* 'fierce,' O.H.G. *grimmi* (G. *grimm*) (**ghᵘ̯rem-**), Goth. *gramjan* 'make angry' (**ghᵘ̯rom-**).

These only show traces of labialisation in Latin. Perhaps *f* is dialectic for *g*.

Wharton under this head quotes *flāvus* (**gh^{u}l̥u̯os**), cp. χλωρός, with different suffix, and *fulvus* (**gh^{u}l̥u̯os**), *gilvus* (*gilbus*) *helvus*, A.S. *geolu* (**gh^{u}elu̯os**).

Nebrundines and *nefrōnes* have been referred to above.

The velars *k*(^{u}), *g*(^{u}), *gh*(^{u}) without labial modification are represented in Teutonic by *h* (and *g*, by operation of Verner's Law), *k* and *g*.

All that has been said under palatals about the representation of gutturals applies to velars. The labial modification, when active, of course sometimes asserts itself, or, it may be, only colours the result.

As examples of non-labialisable hard velars take these:—A.S. *hēawan* 'hew,' O.H.G. *houwan* (G. *hauen*), L. *cū*(*dō*) 'strike' (**k^{u}ou̯-**); Goth. *weihan* 'fight,' A.S. *wīgend* 'warrior' (E. *wight* 'nimble'), O.H.G. *wīgant* (G. *weigand* 'warrior') (**u̯ei̯k^{u}-**); Goth. *nahts*, A.S. *neaht niht* (*i* = palatal umlaut of *ea*, the breaking of *ea* (orig. *o*)), O.H.G. *naht*, Sk. *náktis*, Gk. νύξ, L. *nox* (**nok^{u}t-**).

k^{u}, associated with *s*, remains as *k*:—Goth. (*us*)-*skaws* 'prudent,' A.S. *scēawian* 'behold' (E. *show*), O.H.G. *scouwōn* (G. *schauen*), Gk. (θυο)σκό(Ϝ)ος 'priest' (**sk^{u}ou̯-**), Gk. κο(Ϝ)έω 'perceive,' (ἀ)κούω, L. *caveō* (**k^{u}ou̯-**).

For *g*^{u} and *gh*^{u} without labial modification take Goth. *kalds*, L. *gelu*, as above; A.S. *gealla* 'gall,' O.H.G. *galla* (G. *galle*), Gk. χόλος (**gh^{u}ol-**), L. *fel* (**gh^{u}el-**); Goth. *þragjan* 'run' (Norse *þræll*, E. *thrall*), O.H.G. *drigil* 'servant,' Gk. τρέχω (**thregh^{u}-, throgh^{u}-**).

With labial modification, *k*^{u} appears in Teutonic as *hw* (χ^{u}) (and *gw* (ʒ^{u}), by operation of Verner's Law).

gw before *u* lost its labial modification, in other surroundings it became *u* or *w*.

Examples are :—A.S. *hwōsta* 'cough' (Scotch (*kink*)-*host*), O.H.G. *h*(*w*)*uosto* (G. *husten*), Sk. *kāsatē* 'he coughs'; Goth. *leihwan* 'lend,' L. *linquō*, see above; Goth. *saíhwan* 'see,' A.S. *sēon* (*ēo* = contraction of *eho*), O.H.G. *sehan* (G. *sehen*), Gk. ἕπομαι, L. *sequor* (**seku̯-**); Goth. *ahwa* 'water,' A.S. *ēa* (*æhwu*) (E. *i*(*s*)*land*), O.H.G. *aha* (G. *aue* 'wasserreiches Wiesenland'), L. *aqua*, (**aku̯-**); A.S. *sǣgon* (*sāwon* is a new formation) 'we saw,' 1 plu. pret. (Teut. *sēʒ*(*u̯*)*umi*); Goth. *siuns* 'sight' (Teut. *se*(*ʒ*)*u̯nís*); Goth. *tēwa* 'arrangement' (Teut. *tē*(*ʒ*)*u̯ō*), A.S. (*ge*)*tēon* (*ēo* = *eho*) 'arrange,' O.H.G. (*gi*)*zehōn* (G. *zeche* 'share'), Gk. δεῖπνον (= δεπνι̯ον) (**deku̯-**).

There is a new affiliation for Goth. *saíhwan*, viz., to a root *seku̯-* 'sehen lassen, zeigen = sagen' seen in Gk. ἔννεπε (ἐνσεπε), L. *inseque*, *inquam* (*insquām*), cp. for meaning *dīcere* and δείκνυναι (Brug. Jour., vol. i., p. 258).

The *g*, got by operation of Verner's Law, became *gg* before *i̯* in West Germanic. This in High German became *kk* (see example under palatals, and cf. O.H.G. *wulpa*, quoted a little below).

hw in Old High German when initial commonly passed into *w*—O.H.G. *hwer*, *wer* 'who'; when medial, the *w* was lost, as in the combinations *kw* and *gw*.

hw before *t* gives *ht*—A.S. *siht* 'sight' (*i* = *i*-umlaut of *eo*, but compare the M.E. *eo* into *i* before front *h*(*t*), O.H.G. *siht* (G. *sicht*) (cp. for *i*, *fihu* 'cattle,' L. *pecus*), Goth. *saíhwan*, see above. *hw* also appears as *f*—Goth. *wulfs*, &c., Gk. λύκος (p. 98); A.S. *fēower* (*ēo* = contraction for *egw*), O.H.G. *fior* (G. *vier*) (**ku̯eku̯r̥-**), by assimilation from **ku̯etu̯r̥-(-ṓr-)**, which gives Gk. τέτταρες (= κϝετϝαρες), L. *quattuor*, Sk. *catvā́ras*, Goth. *fidwōr*; Goth. *fimf* (for *finhw*, second *f* due to assimilation). A.S. *fīf* (*ī* by compensatory lengthening), O.H.G. *finf* (*funf*) (G. *fünf*), Sk. *páñca*, Gk. πέντε, L. *quīnque* = *quénque* (*qu* by analogy of *quattuor*, or by assimilation to following *qu*, the vowel being lengthened before combination *nqu*) (**pénku̯e**).

gw must also have appeared as *b* (ƀ) (changed into *p* in Old High German)—O.H.G. *wulpa* 'she-wolf' (G. *wölfin*) (Teut. *u̯ulƀí*, gen. *u̯ulƀi̯ṓs*; originally *u̯ulʒu̯i̯ṓs*)—in Old High German, *pp* before *i* was simplified into *p* after *l*—Sk. *vṛkī́* (**u̯ḷku̯í**).

If Goth. *augō* 'eye,' A.S. *ēage*, O.H.G. *ouga* (G. *auge*) are to rank with *oculus* (**oku̯-**), there must have been contamination between two stems, viz., *aʒ*(*u̯*) followed by *u*, and *a*(ʒ)*u̯*- not so followed, resulting in the combination *au̯ʒ*.

With labial modification $g^{u̯}$ appears in Teutonic as *kw*—Goth. (*asilu*)*kwaírnus* 'mill-stone,' A.S. *cweorn* (E. *quern*), O.H.G. *chwirna*, *quirn* (**gu̯ern-**). *kw* before *u* loses its labial modification—A.S. *cumen* 'come' p.p., O.H.G. *koman* (Teut. *k*(*u̯*)*umana*-); Goth. *kaúrus*, Sk. *gurús*, Gk. βαρύς (**gu̯ṛú-**), see above.

$g^{u̯}$ also appears in Teutonic as *p* (dissimilation caused by *u̯* in preceding or following syllable)—Goth. *waírpan* 'throw,' A.S. *weorpan* (*eo* = breaking of *e*), O.H.G. *werfan* (G. *werfen*) (**u̯ergu̯-**).

Kluge says that O.H.G. *pflegan* (G. *pflegen*) 'care for' may be connected with βλέφαρον 'eyelid,' βλέπω 'see' (**gu̯leghu̯-** (?)).

The *k* got from I.E. $g^{u̯}$ associated with *i̯*, gives result *kk*, which appears in High German as *cch* and *ch*—see typical examples of palatals (see also O.H.G. *nacchut*, quoted as cognate under orig. $g^{u̯}$ in Latin).

With labial modification $gh^{u̯}$ appears in Teutonic as *g* before *u*, elsewhere as *w* (from ʒ(*u̯*), and (ʒ)*u̯*)—A.S. *hnigon* 'we bowed,' O.H.G. *nigun* (G. *neigen*) (Teut. *χniʒ*(*u̯*)*mi*); A.S. *wearm*, see above among typical examples.

After a nasal, *gh*$^{u̯}$ is represented by *gw*—Goth. *siggwan* 'sing' (**senghu̯-** (?)).

hw (orig. *gh*$^{u̯}$) before *t* gives *ht*—Goth. *leihts* 'light,' Gk. ἐλαχύς, see above.

Sometimes, from local causes, the ʒ, got from orig. *gh*$^{u̯}$ appears in Gothic as χ—*gaggs* (χ) 'way' nom., *gagg* (ʒ) acc., A.S. *gang*, O.H.G. *gang*, Sk. *janghā́* 'heel-bone' (**ghenghu̯-**) (non labialisable velar).

g (orig. *gh*$^{u̯}$) before *i̯*, gives by gemination *gg*, which in High German shifts to *kk*—Goth. *lagjan* 'cause to lie,' A.S. *lęcgan* (*cg*=*gg*), O.H.G. *lęcken* (G. *legen*) (**leghu̯-**) (non-labialisable velar).

The labial after-sound in Teutonic seems to have been a full *u̯*, since *k*$^{u̯}$ and *ku̯* have the same representation—Goth. *leihwan* 'lend,' L. *linquō* (**lei̯ku̯-**), and Goth. *aíhwa-* 'horse,' L. *equus*, Sk. *áśvas* (**éku̯o-**).

For orig. *k*$^{u̯}$*n*, *g*$^{u̯}$*n*, and *gh*$^{u̯}$*n* in Teutonic, see Chapter on Grimm's Law.

There is little doubt that tenues aspiratae existed in the parent-speech. These may be supposed to have survived, where the Asiatic and European languages exhibit evidence in common—the suffix of the 2 sing. perf. ind., Sk. *vḗttha*, Gk. οἶσθα (**-tha**); Sk. *skhálāmi* 'I stumble' (**skh**$^{u̯}$**el-**), cp. Gk. σφάλλω (σφl̥i̯ω); Gk. σχίζω, L. *scindō* (**skhu̯i(n)d-**); Sk. *śankhás* 'shell,' Gk. κόγχη 'mussel,' L. *congius* 'quart' (**konkhu̯-**); Sk. *nakhás*, Gk. (ὄ)νυξ (**nokhu̯-**), L. *unguis* (**onkhu̯-**); Gk. τρέχω 'run,' Goth. *þragjan* (**threghu̯-**, **throghu̯-**); L. *habet*, Goth. *habáiþ*, A.S. *hafað*, O.H.G. *habēt* (**khabh-**).

See also on Moulton's Law in Chapter VII.

CHAPTER V.

Vocalic and Consonantal Affections. Analogy.

By way of finishing what has been said on sound-relations in Indo-European, it will be proper to gather together examples, and, where necessary, give definitions of certain sound-processes, many of which have been already exemplified in the preceding chapters.

These will be arranged under the heads of vocalic affections and consonantal affections, each set being further considered under the sub-heads of (1) Change (2) Increase (3) Loss. Vocalic affections first.

CHANGE.

Vowel Assimilation may be regressive or progressive. Convenient examples of the influence of a following vowel on a preceding one are to be seen in the Latin reduplicated perfects *didicī*, *momordī* (O.L. *memordī*), *pupugī* (O.L. *pepugī*).

Progressive assimilation is seen in *elephántus eleméntum*, for *eliphantus elimentum*. Note also *semel* for *semul.*

Assimilation between vowels often occurs when *l* intervenes. This has been called the 'balancing power of l.' Notice *Sicilia* and *Siculus*, *Procilius* and *Proculus.*

The assimilative force exerted by consonants on vowels is sufficiently noticed under each vowel in Chapter II.

Vowel Assimilation is quite a prominent feature in Teutonic.

Umlaut is a variety of regressive assimilation. The change is brought about by the action of the *i*, *u*, or *a* of a following syllable, on the preceding vowel. The causal vowel has not always survived.

With regard to the *i*-umlaut the proximate agent in the change would seem to have been the following fronted consonants. These consonants, which themselves owed their fronting to a following front-vowel, fronted the preceding back-vowels. The fronting of the consonant has not always remained. It however may still be heard in *bridge*, A.S. *brycg*. In this word the fronted *g*—*cg* is a way of writing *gg* (from *gj*), the gemination of *g*—caused the umlaut.

There is no umlaut in Gothic.

(*a*) *i*-umlaut is the most original and the most important. It effects the following changes :—

a (æ)	to	ę	ū	to	ȳ
ā (ǣ)		ǣ	ea		ie (i, y)
o		ę, y	eo		
ō		ē	ēa		ie (ī, ȳ)
u		y	ēo		

Prior to the appearance of *i*-umlaut, the short *a* in Anglo-Saxon had undergone its changes to *æ* and *ǫ*.

Examples are :—

(Goth. harjis)	to	hęre	brūcan	to	brȳcð (3 sing. pres.) (Goth. brūkjiþ)
hāl		hǣlan (Goth. háiljan)	eald		ieldra (comp.)
dohtor		dęhter (dat.)	weorpan		wierpð(3 sing.pres.)
gold		gylden			
dōm		dēman	hēah		hīehra (comp.)
burg		byrig (gen. and dat.)	cēosan		cīesð (3 sing. pres.)

(*b*) *u*- and *o*-umlaut effect the following changes :—*a*, *e*, *i*, into *ea*, *eo*, *io*. Examples are *cearu* (poet.), *weorold*, *siolfur* (Goth. *silubr*).

This umlaut is common in Norse but somewhat infrequent in West Saxon.

(*c*) The change of *i* to *e*, and *u* to *o*, caused by a following *a* or *o*, is sometimes called *a*-umlaut. Examples are:—A.S. *wer*, L. *vir*, I.E. *u̯irós*; A.S. *nest*, O.H.G. *nest*, L. *nīdus*, I.E. *nizdós*; A.S. *dohtor*, O.H.G. *tohter*, Goth. *daúhtar* (**dhughu̯**); A.S. *hord* 'treasure,' O.H.G. *hort*, Goth. *huzd*, I.E. *kudh-dho-*.

(*d*) Palatal umlaut is the name given to a change wrought on the *eo* and *io* that have sprung from the breaking of *e* before an originally guttural *h* + consonant. The *eo* and *io* change to *ie* (*i*, *y*). Sometimes *ea* and *ēa* are in this way converted into *e* and *ē* before *h*, *x*, *g*, and *c*. Examples are *reoht* and *riht* (*rieht*), *seox* and *siex* (*x* = *hs*), *ēage* and *ēge* 'eye,' *cēac* and *cēc* 'cheek.'

In Modern German, the vowels *a*, *o*, *u*, when subjected to umlaut, appear as *ä* (*e*), *ö*, *ü*. *au* appears as *äu* (*eu*). The *i* that caused the umlaut is seen in the O.H.G. forms. Examples are:—*kraft*, *kräfte* (O.H.G. *krafti*); *alt*, *älter* (O.H.G. *eltir*); *kalb*, *kälber* (O.H.G. *kelbir*), the *-ir* (Gk. -ες) orig. belonging to sing. as well as plu. being utilised as a plu. suffix; *mochte*, *möchte* subj. (O.H.G. *mohta* and *mohti*); *fuhr*, *führe* subj. (O.H.G. *fuor*, *fuori*); *traum*, *träumt* 'he dreams' (O.H.G. *troumit*); *haus*, *häuser* (O.H.G. *hūsir*). The umlauts of *a* and *au* are written *e* and *eu* when no connection has to be indicated with forms in *a* and *au*.

Rückumlaut, as applied to the alternation of sound in *brennen* (O.H.G. *brannian*), *brannte* (O.H.G. *branta*), is a misnomer. The *a* of the preterite is the original vowel, it is the *e* that is secondary (umlauted from *a*).

Another alternation of vowels (*e* and *i*) seen in German is due to the influence of following vowels. This is called Brechung in the grammars. Take as examples these:—*erde*, *irden* (O.H.G. *erda*, *irdīn*); *herde*, *hirte* (O.H.G. *herta*, *hirti*). *e* is original and remained when *a* followed, but when *i* followed, it passed to *i*.

A similar alternation (*u* and *o*) is seen in these:—*wir wurden*, *geworden* (O.H.G. *wurdun*, *gawordan*); *für*, *vor* (O.H.G. *furi*, *fora*). *u* (changed to *ü* in Old High German when followed by *i*) is original, and remained when *i* and *u* followed, but when *a* followed, it passed to *o*. The diphthong *iu* also passed to *io* (now *ie*) in similar circumstances —G. *wir fliegen*, M.H.G. *fliegen*, O.H.G. *fliogan*, *ie* has by analogy been driven right through the tense. In earlier German *eu* appeared in some persons (O.H.G. *iu*).

Breaking is the name given in Anglo-Saxon to a change wrought on a preceding vowel by *r* + consonant, *l* + consonant, *h* + consonant (*x*=*hs*), or *h* at the end of a syllable. *a* in these conditions breaks into *ea*, *e* into *eo io*, *i* into *io eo*. Probably this parasiting is caused by the difficulty in bridging the vocalic space between consonants in different positions. Examples are:—

Goth. arms	A.S. earm	O.H.G. elaho	A.S. eolh
Goth. staírra	A.S. steorra	Goth. ahtáu	A.S. eahta
Goth. fallan	A.S. feallan	O.H.G. fehtan	A.S. feohtan

The *eo io* got from broken *i* always appears umlauted to *ie*.

Something like breaking is heard in the American *cear* for *car*.

In Gothic before *h*, *hw*, and *r*, *i* (representing old *e* and *i*) was broken to *e* (written *aí*). In the same circumstances *u* (representing old *o* and *u*) was broken to *o* (written *aú*).

This *aí* and *aú* are to be distinguished from the real diphthongs *ái* and *áu*.

The palatal semi-vowel *j*, and palatal *c*, *g*, and *sc*, when initial, produce a similar result, *ja* and *jǽ* becoming *gea*; *jo* and *ju*, *geo* and *gio*; while *c*, *g*, and *sc*, change *æ*, *ǣ*, *e*, into *ea*, *ēa*, *ie*. Sievers places these changes under the head of *palatal influence*.

Influence of w. This is the name given to the Anglo-Saxon change of *wio* (got from *wi* by breaking, or due to *u*- and *o*-umlaut) into *wu*—A.S. *wuht* (*wiht*, *uht*) 'thing,' O.H.G. *wiht*; A.S. *wudu* 'wood' (*wiodu*, *widu*), O.H.G. *witu*; A.S. *swurd* (*sweord*, *weo* usually remains), O.H.G. *swert*. The influence of *w* is seen at work in the generation of a *u* in the combinations *aw*, *ew*, and *iw*. The resultant *auw*, *euw*, *iuw* passed regularly into *ēaw*, *ēow*, *īow* (nearly always umlauted into *īew* (*īw*).—A.S. *fēawe* 'few,' Goth. *fawái*; A.S. *cnēo* 'knee,' gen. *cnēowes*, O.H.G. *chneo*, gen. *chnewes*, A.S. *nīewe nīwe*, Goth. *niujis*.

Palatal Influence. See above under Breaking.

Influence of nasals. Teutonic *a* often appears as (open) *ǫ* in Anglo-Saxon, *a*-forms however occurring side by side—A.S. *mǫnn* (*mann*), O.H.G. *mann*. This *o* is lengthened when *n* drops—A.S. *gōs* 'goose,' O.H.G. *gans*. So *ō* for Teutonic *anχ*—A.S. *fōn* 'catch,' O.H.G. *fāhan*, Teut. stem *fanχ-*. Compare also A.S. *ō* representing Teut. *ǣ*, I.E. *ē*, before nasals—A.S. *mōna* 'moon,' Goth. *mēna*, O.H.G. *māno*, Gk. μήνη.

Shortening of Long Vowels (not final). In Greek, this takes place before *u̯*, *i̯*, nasal, liquid + explosive or spirant —Ζεύς, Sk. *dyāús* 'sky'; βοῦς, Sk. *gāús*; ἵπποις, Sk. *áśvāis*; ἄεντ-, part of ἄημι, for ἀϜηντ-; ἔμιγεν, 3 plu. aor. pass., for *ἐμιγηντ*; *στόρνῡμι*, cp. *στρώννῡμι*. Long vowels are also shortened before vowels—*νεῶν* 'of ships,' for *νη(F)ῶν*. Compare the so-called transference of quantities in *ἑστεῶτες* for *ἑστη^{F}οτες*, *ἱππέως* and *ἱππέᾱ* for *ἱππη^{F}ος* and *ἱππη^{F}α*. Compare also *ἑώρων* and *ἐᾱ́γην* for *ἠ^{F}ορων* and *ἠ^{F}ᾰγην*.

In Latin this takes place before *i̯*, *u̯*, nasal, liquid + explosive or spirant—*oloes illīs* from *-ōi̯s*; *naufragus* (Sk. *nāús*); *claudō* from *clāu̯idō* (Gk. *κλη(F)ίς*; *gaudeō*, cp. *gāvīsus*, Gk. *γηθέω* for *γᾱ^{F}εθεω*); *ventus* (*u̯ēntos*), cp. Gk. *ἄεντ-*; *ars artis* (ṛtí-). Long vowels are also shortened before vowels—*neō* 'spin' for *nē(i̯)ō*; *reī* for *rēī*.

In final syllables also (before *t*, *m*, *r*, *l*), long vowels were largely shortened in Latin—*amet* and *amēs*, *equam*, Sk. *áśvām*, *clamor* and *clamōris*, *animal* and *animālis*. A comparison of *Juppiter* (voc. used as nom.) and *Ζεῦ πάτερ* (*cuppa* and *cūpa*, *littera* and *lītera*) brings out a shortening of quantity in the former. The quantity stolen from the vowel was distributed over the time of the consonant's utterance, as is argued by the gemination. The doubling is not always met with, for, in addition to the persistence of the old form, it is probable that this gemination had not the same pronunciation as a genuine doubled consonant. Compare the different forms of Mod. Germ. *mutter* and O.H.G. *muoter*.

Shortening seems to have taken place in Teutonic before *n* + explosive or spirant—Goth. *winds*, A.S. *wind*, O.H.G. *wint*, Gk. *ἄ(F)ημι*, cp. *ἀέντ-*, L. *ventus*. It also occurs in Anglo-Saxon in unstressed syllables—*sealfian* 'anoint,' Goth. *salbōn*, O.H.G. *salbōn* (but M.H.G. *salben*); in unstressed components of compound words—*woroldlic*, cp. *gelīc* with accent on second syllable, *frætewe* 'adornment,' *tāwe* 'equipment Goth. *tēwa* 'arrangement'; in words where gemination occurs before *r*—*hluttor* 'clear' = *hlūtor*, *æddre* 'vein' = *ǣdre*, also in combinations where the vowel had been lengthened by compensation for lost *n*—*fracoð* 'infamous,' for *fracūð*, cp. Goth. *kunþs* 'known,' O.H.G. *cund.*

Lengthening of Short Vowels. In Greek, compensatory lengthening is frequent enough—κτείνω(κτενι̯ω) by compens. for κτέννω, φθείρω(φθερι̯ω) by compens. for φθέρρω, Ion. γοῦνα (γονFα) 'knees,' by compens. for γόννα (Attic γόνατα, in Attic F was elided without compensatory lengthening), Hom. οὖλος from ὀλFος (Attic ὅλος), τούς for τόνς, εἰμί (ἐσμι) by compens. for ἔμμι. The ει and the ου of compensation are not real diphthongs.

In Latin, all vowels are long before the combinations *ns*, *nf*, *gn*, *gm*. Compensatory lengthening also occurs—*equōs* for *equons*, *aēnus* for *aësnos*, *nīdus* for *nizdos*, &c.

In Teutonic, compensatory lengthening is met with before *nχ*—Goth. *þāhta* 'thought,' A.S. *ðōhte*, O.H.G. *thāhta*, O.L. *tongeō* 'I know.' See above, under Influence of Nasals. Notice also O.H.G. *mēta* (also *mētu* (G. *miethe*)) 'meed' (*e* = *i*, with compensatory lengthening), A.S. *mēd*, Goth. *mizdō* 'pay,' Gk. μισθός.

In Anglo-Saxon, monosyllabic words (*ac* 'but,' *gif* 'if,' *ic* 'I,' *bet* 'better,' &c.) ending in a single consonant are sometimes lengthened. Vowels are also in this language sometimes found long before the combinations of nasal + consonant, *r* + consonant, *l* + consonant.

GROWTH.

Anaptyxis. This is a name given to vowel-generation. When initial it is called **Prothesis.** Examples in Greek are—ἐρυθρός, L. *ruber*; ἐλαφρός, O.H.G. *lungar*; Hom. ἐ(F)έρση 'dew' beside ἔρση ἕρση, Sk. *varshás* 'rain'; Hom. ἐ(ϝ)είκοσι beside ϝείκοσι; ὀμῑχέω, L. *mingō*. From these examples it will be seen that prothesis occurs in Greek before liquids, ϝ (in Ionic), and nasals. Notice also ἐρύομαι and ῥύομαι, ὀμόργνῡμι and μόργνῡμι, with and without the prothetic vowel.

A vowel is generated in Latin before liquids and nasals, and usually takes its colouring from the vowel of the succeeding syllable—*pōculum* from *pōclum*, *singulus* from *semclus*, cp. *semel*, *simplex*. Loan words exhibit anaptyxis—*Tecumēssa* (Τέκμησσα), *mina* (μνᾶ), *drachuma* (δραχμή).

In Teutonic, Goth. *miluks*, A.S. *meoloc*, O.H.G. *miluh* (Gk. (ἀ)μέλγω) (**melg-**), cp. L. *mulgeō* (**ml̥g-**), seem to exhibit anaptyxis. Other examples (in West Germanic) are A.S. *hęr(i)ge* 'to the army,' O.H.G. *hęrige* (between *r* and *i̯*), cp. Goth. *harja*); O.H.G. *zesawēr*, *zesewēr* 'dexter' (between cons. and *u̯*), cp. Goth. *taíhswa* (Gk. δεξιός, Sk. *dákshiṇas* 'right, south'); O.H.G. *wahsamo* 'growth' (between cons. and nasal), beside *wahsmo*, *wahsan* (G. *wachsen* 'grow'), Goth. *wahsjan*, A.S. *weaxan* (**u̯eks-**), Gk. αὔξάνω (**uks-**).

Epenthesis. This is an accompaniment of the Palatalisation and the Labialisation of consonants, effects that are produced by a post-consonantal *i̯* or *u̯*. The palatalisation and labialisation echo back into, and finally become wholly located in, the preceding syllable, converting any vowel other than *i* or *u* into an *i-* or *u-* diphthong—φαίνω for φανι̯ω; ἐξαίφνης for -αφνι̯ᾱς, cp. ἄφνω; δέσποινα for δεσποτνι̯α; αἰχμή 'point of a spear' for ἀχμι̯ᾱ (*ṇ*χ-), cp. ἔγχος; Hom. τοῖο (τοισο) for τοσι̯ο, Sk. *tásya*; ταῦρος (ταρϝος) 'bull,' beside Gaulish *tarvos* (Κένταυρος is for Κενθαυρος, by popular etymology from κεντέω 'goad' and ταῦρος, = Sk. *gandharvás* 'demigods inhabiting Indra's heaven'(?)).

LOSS.

Contraction. In consequence of the disappearance of *i̯*, *u̯*(*F*), and *s* between vowels, contraction is common in Greek. The hiatus resulting from the loss of these letters is often closed by this means—φορῶ contrd. from φορέω (φορει̯ω), παῖς from πάις (παFις), γένους from γένεος (γενεσος). When the vowels to be contracted are of similar quality, one long vowel serves—βασιλῆες (βασιληFες), which passes into βασιλῆς. The contraction of εε and οο gives for result close *ē* and close *ō*, written ει and ου—τρεῖς for τρει̯ες, Sk. *tráyas*, Hom. ἠοῦς for ἠοσος, Sk. *ushásas*. Darbishire makes ἠοῦς = ἠFο(σ)ος, with prefix ἠ, as in ἠέλιος (rt. Fελ- 'burn' as in εἵλη 'warmth') for ἠFελιος, and separates rt. *ves-* 'shine' (Sk. *vas*, Gk. ἕως) from *ush-*; connecting the latter, as a weak form, with the *aus-* that appears in αὔριον, *Aurōra*, Lesb. αὔως.

This ει and ου are naturally not real diphthongs, but graphic expedients. If the vowels to be contracted are of different qualities, at times the equality of the first prevails—ἄκων for ἀέκων (ἀFεκων), Ἀτρείδᾱ for Ἀτρείδᾱο, Dor. τᾶν gen. plu. fem. for τᾱ́ων, cp. Sk. *tā́sām*, L. *istārum*; ἐλάττους for -ο(σ)ες, cp. L. *majōres* (the ο coloured the ε into ο, and the resultant όο then passed into ου): at times the quality of the second—Attic τῶν gen. plu. fem., cp. Dor. τᾶν above. In γένους for γένεος (γενεσος), the ε fell to ο, under the attraction of the ο, and the resultant οο passed into ου. If the second of the vowels to be contracted was ι or υ, various apparent diphthongs resulted—παῖς (πα(F)ις), οἶς (ὀ(F)ις), ει (ἐσι), δαυλός 'thick' (for δασυλος, cp. δασύς '*densus*').

Elision is a species of contraction. The Attic is the dialect that has most persistently weeded out uncontracted forms.

In Latin the loss of medial *i̯* is the most frequent cause of contraction—*trēs* for *trei̯es monēte* for *mone(i̯)ete, stō* from *stā(i̯)ō, stat* from *stā(i̯)et, amēs* for *amā(i̯)ēs* (I.E. *-i̯oi̯s*). Contraction does not take place in Latin with the combinations *eŏ eă* and *aḗ—moneō, moneām, aēnus.* The loss of *h* also gives scope for contraction—*nēmō* for *nehemō, bīmus* for *bihimus, praebeō* for *praehibeō.* Notice *cōgō* for *coagō, dēgō* for *dēagō, prōmō* for *proemō.* (Wharton derives *prōmō cōmō,* &c., from words made up of prepositions and adjectival endings, cp. *prōmus* 'cellarer.') But *coēgī* remains uncontracted, as happens when the second vowel is long, and has the principal accent.

For a common example of contraction in Teutonic, take Goth. *frēt* 'ate up' 3 sing. pret., A.S. *frǣt*, O.H.G. *frāʒ*, Teut. *frēti*, contrd. from *fra-ēti*, as is seen from Goth. pres. *fraitan* 'eat up' (E. *fret*, G. *fressen*).

Certain Anglo-Saxon contractions claim notice. The result *ēa* is given by the West Germanic *a* + *o, u* ; *ā* (Teut. *ǣ*) + *o, u.* Examples are *slēan* 'slay,' Goth. *slahan* ; *brēa* 'brow' = *bra(w)u* for *brāwu*, O.H.G. *brāwa* (G. *braue*). A following vowel after *ēa*, from any original, is crushed out—*frēa* 'lord' for *frau(j)a*, Goth. *fráuja*, O.H.G. *frō* (G. *frohn* 'herrschaftlich,' now only used as first member of compounds).

The result *ēo* (*īo*) is given by West Germanic *e* + *ǫ, o, u* ; *i, ī* + *ǫ, o, u* ; *i, ī* + *a, ā.* Examples are *sēon* = *seh(w)on*, Goth. *saíhwan* ; *tēon* 'censure,' O.H.G. *zīhan*, Gk. δείκνῡμι ; *bēot* 'promise' for *bi(h)āt be(h)āt*, O.H.G. *biheiʒ* ; and *frēo* 'free' for *frija*, Goth. *freis* (acc. sing. m. *frijana*) Sk. *priyás* 'dear.' A following vowel after any *ēo* is crushed out—*tēon* 'draw' for *teu(h)on*, O.H.G. *ziohan* (G. *ziehen*), O.L. *doucō*.

A.S. *ā* (Teut. *ǣ*) + vowel = *ā*—*tā* 'toe' = *tāhe*, O.H.G. *zēha* (G. *zehe*), I.E. **dai̯ku̯-**.

A.S. *ō* + *a*, *ǫ*, *u*, *e* = *ō* = *hōn* 'hang,' Goth. and O.H.G. *hāhan*, Teut. *χanχ-*, I.E. **kanku̯-**.

Aphaeresis, Syncope, and Apocope are names given to different kinds of vowel-loss, according as this manifests itself initially before consonants, medially between consonants, and finally after consonants. That vowel-loss which leaves a syllabic something behind it, is called *samprasāraṇa* (the term of the Sanskrit grammars), e.g., *ūc* is the *samprasāraṇa* form of rt. *vac*. Vowel-loss existed in the parent speech.

In Latin take the following examples:—*sum* (*esmi* or *esm̥*) due to the analogy of *sumus*; *ager* from *agr̥s*, *samprasāraṇa* of *agros*, *agellus* for *agerlus* (*agrolos*), *cette* 'give ye' from *cé-dite*, *valdē* (cp. *validus*), *nūntius* for *noventios*, *audeō* (cp. *avidus*); *hospes* from *hostpes* (*hostipes*), *prīnceps* from *prīmiceps*, *Pollūx* from *Polulūces* (Gk. Πολυδεύκης), *nūper* for *noviper*, *sīnciput* (*sēmi-*, *caput*), *sēsqui-* (*sēmissi-*, *que*), *sēlībra* (*sēmi-*, *lībra*), *sēstertius* for *sēmistertius*, *Marpor* for *Marcī puer*, *prōrsus* for *prōvorsus*, *meopte* (cp. *utpote*), *dōdrāns* (*dō*, by-form of *dē*, and *quadrāns*) *surgō* (*sub-*, *regō*), *reppulī* (*ré-pepulī*), *dīc*, *dūc*, &c., beside older *dīce*, *dūce*, &c., *tot* for *tote toti* (cp. *totidem*), *et* (cp. Gk. ἔτι), *exemplar* and *exemplāre*, *volup* 'agreeably' and *volupe* (cp. Gk. ἔλπω), *famul* and *famulus*, *neu* and *nēve*, *ac* and *atque*, *quīn* 'but that' (*quī* (abl.), *ne* negative), *sīn* 'but if' (*sī*,- *ne* pronominal, as is the *n* of *alioquīn*), *sīremps* and *sirempse* 'similarly' (got from the collocation *sī rem eampse*—, Wharton says it is a perf. inf. of a *surimō* 'take up,' so that *siremps lēx estō quasi* means 'let an assumption be law as though—').

For these remarks on *quīn* and *sīn* confer Brugmann's Journal, vol. ii., pages 212 and 222.

In Teutonic, take the following examples—A.S. *bisceop*, O.H.G. *biscof* (G. *bischof*), from Gk. ἐπίσκοπος; Goth. *wulfs* (Teut. *wulfaz*); Goth. *satja* 'I set' (Teut. *satiįō*).

In West Germanic the following rules hold in regard to syncope:—Short vowels drop out in open syllables (*a*) after long syllables bearing the chief accent; (*b*) after a syllable bearing a secondary accent, following that (long or short) with the chief accent—A.S. *hīerde* (*īe* = umlaut of *ēa*, Teut. *au*), O.H.G. *hōrta* 'heard' for *hōrita*, cp. Goth. *háusida*, O.S. *mahtigro* from *máhtigiro* dat. sing. fem. of *mahtig* 'mighty.'

The second head will now be taken up, viz., Consonantal Affections, divided out into various sub-heads.

CHANGE.

Assimilation. Examples in Greek are ἴστε, cp. ἴδμεν; νυχθ' ὅλην (νύκτα); ἐφθημιμερής (ἑπτά) 'with seven halves'; κρύβδην (κρύπτω) 'secretly.'

In Latin, these will serve:—*peccare* = *pedcare* (*pēs pedis*); *hoc* = *hodce*; *agger* (*ad*, *gerō*); *ampulla* (*amporla*) 'bottle,' cp. *amphora*; *polliceri* (*por-*, *licerī*); *tollō* = *tolnō*, *sollus* = *solvos*, Gk. οὖλος, Sk. *sárvas*; *omnis* for *opnis* (cp. *opes*, or is it *ob*? Bréal calls *omnes* a doublet of *homines*); *gener* (*genros gemros*, Gk. γαμβρός (?)).

In Teutonic, take these:—G. *empfinden* for *entfinden* (O.H.G. *intfindan*); G. *himbeere* 'raspberry,' for *hindbeere* 'berry eaten by the hind' (O.H.G. *hint-bęri*); G. *wimper* 'eyelash,' for *windbraue* (O.H.G. *wintbrāwa* 'die sich windende Braue'); G. *hoffart* 'haughtiness,' for *hochfahrt* (M.H.G. *hōchvart* 'Art vornehm zu leben,' cp. G. *wohlfahrt*); G. *imbiss* 'snack,' for *inbiss* (*einbeissen*).

Dissimilation. This sometimes involves the loss of a letter or syllable. Examples in Greek are πινυτός 'wise,' for πυνυτος, ψιθυρός 'whispering,' for ψυθυρος; ἐκεχειρία 'armistice,' for ἐχεχειρια; τέθητι for θεθηθι; τεῖχος for θειχος; πάρθενος for φαρθενος, E. *burd*; βόθρος for φοθρος; ἔκπαγλος for ἐκπλαγλος; δρύφακτος for δρυφρακτος; ἀμφορεύς and ἀμφιφορεύς, κέντωρ 'goader,' for κεντητωρ, θάρσυνος for θαρσοσυνος, λιπυρίᾱ 'intermittent fever,' for λιποπυριᾱ.

In Latin, these may serve:—*gurguliō* 'gullet,' cp. Gk. γαργαρεών; *singularis* and *pluralis*; *piāclum* (*-tlo-*) and *lucrum*; *cancer* for *carcer*, cp. Gk. καρκίνος; *agrestis* for *agrestris*, cp. *silvestris*; *crebescō* and *crebrescō*; *antestārī* for *antetestārī*; *trucīdare* for *trucicīdare*; *sēmēstris* for *sēmimēstris*; *stīpendium* for *stīpipendium*; *nūtrīx* for *nūtrītrīx*; *vituperāre* for *vitituperāre*.

One or two examples for Teutonic may be given—O.H.G. *marmul* (G. *marmel*) from L. *marmor*; O.H.G. *turtiltūba* (G. *turteltaube*, E. *turtle*) from L. *turtur*; Goth. *awistr* 'sheep fold,' for *awiwistr*, A.S. *ēowestre*, O.H.G. *ęwist*.

Assibilation. This is a name given to the conversion of a dental to *s*. The following examples from Greek will serve:—πόσις (cp. L. *potis*); διπλάσιος 'double,' cp. δίπαλτος, Goth. *-falþs*, A.S. *-feald*, O.H.G. *-falt*; σύ (cp. L. *tū*); πέρυσι (Dor.

πέρυτι) 'last year,' cp. Goth. *fairneis* 'old,' A.S. *fyrn*, O.H.G. *firni* (G. *firn* 'vorjährig').

Labialism was the name given to the passage of the velar guttural into π, β, φ. See Chapter IV., under velars.

Dentalism was the name given to the passage of the velar guttural into τ, δ, θ. See Chapter IV., under velars.

Rhotacism is a name given to the change of *s* into *r* (see Chapter VII., under Verney's Law and Conway's Law) or to the appearance of *r* for *l*.

Labdacism is a name given to the change of *r* into *l*.

Voicing. Examples are L. *gubernō* borrowed from Gk. κυβερνάω, *Burrus* borrowed from Gk. Πύῤῥος (see Chap. VII., p. 171); L. *angulus*, cp. *ancus*; L. *singulus* (*semklos*); L. *vīgintī* for *vīcintī*, on the analogy of *septingentī*, where the *g* is said to be original (palatal *g*); L. *Agrigentum* (Gk. Ἀκράγας); *quadra* 'square,' for *quatra*; L. *ab*, *ob*, *sub* (cp. Gk. ἀπό, ἐπί, ὑπό).

Unvoicing. Examples are L. *amurca* 'oil-lees,' borrowed from Gk. ἀμόργη; L. *spēlunca*, borrowed from Gk. σπῆλυγξ; *citrus*, another form of *cedrus*, borrowed from κέδρος; *pertica* 'pole,' for *pertiga*, from *pertingō*; *aput* and *haut* beside *apud* and *haud*.

Metathesis. Examples of this common interchange of letters are Gk. καρδίᾱ and κραδίη, E. *wasp* (A.S. *wœps* and *wæsp*, L. *vespa*); E. *ask* (A.S. *āscian* and *ācsian*); E. *bright*, A.S. *beorht* and *-breht;* O.H.G. *ęȥȥīh* (G. *essig* (*g* for *ch* in unaccented syllable), A.S. *ęced* (for *d* cp. *abbod* from *abbātem*)), 'aus *atīk* für *atēko*,' got from L. *acētum* by transposition.

GROWTH.

Reduplication. Examples in Greek are these :—Ordinary reduplicated perfects; ἕστηκα (σεστᾱκα); ἔρρωγα (ϜεϜρωγα); εἵμαρται (σεσμαρται); ἔμμορε (σεσμορε); ἔοικα (ϜεϜοικα); εἴρηκα (ϜεϜερηκα); ἐγρήγορα, ἀκωκή, ἀνοκωχή; ὀνίνημι, ἵστημι (σιστᾱμι), cp. L. *sistō*, ἵημι (σισημι); γίγνομαι, πίπτω, πορφύρω; εἶπον Hom. ἔειπον (the theoretical form is ἐϜεϜπον, with weak root; has the Homeric form prothetic ἐ (cp. ἐϜείκοσι, or (and the ει persists through the moods) was there before contraction an analogical restoration ἐϜεϜεπον with ε from the forms with rt. Ϝεπ-). Notice also γαργαρεών 'uvula,' cp. L. *gurguliō*; πεμφρηδών 'wasp,' cp. Sk. *bambharas* 'bee'; τονθορύζω 'mutter'; βάρβαρος, cp. L. *balbus;* παιπάλη 'flour-dust.'

From Latin take these :—the ordinary perfect of reduplication, e.g., *spopondī* for *spespondī*; *sēdī* (*sezdī*, *sesdī*), *stetī* for *stestī*, *scidī* for *scicidī*, *tulī* for *tetulī*, *repperī* for *repeperī*; *gignō*; *querquerus* 'shivering cold,' *murmur* (Gk. μορμύρω), *quisquiliae* 'droppings of trees' (Gk. κοσκυλμάτια).

Aspiration. Take as example these:—ἅδην 'to excess,' due to influence of ἅλις, ὅρπηξ 'sapling,' due to influence of ἀρπή 'sickle'; ἐννέα, due to influence of ἕξ and ἐπτά; ἵμερος from root *vī-* 'wish' not *iṣh-* (Darbishire, Spiritus Asper); *humerus*, cp. Gk. ὦμος.

Gemination. This is a name given to the doubling of a consonant; sometimes in certain manifestations the name **Affrication** is given. Examples are common. Gemination often occurs in West German before *i̯*—A.S. *hębban* (Goth. *hafjan*), A.S. *lęcgan* (Goth. *lagjan*). Many examples have already appeared.

Epenthesis is the name given to the insertion of a consonant. Examples are ἄνδρα, μεσημβρίᾱ (ἡμέρᾱ), μέμβλωκα (cp. ἔμολον), ἄμβροτος (cp. L. *morior*); *exemplum*, *templum*, *compsī*; *thunder*, *nightingale*, *humble* (A.S. *ðunor*, *nihtegale*, L. *humilis*).

Epithesis is the name given to the addition of a consonant. Examples are *lamb*, *tyrant*, *lend*, *midst*, *thumb*, *sound* (A.S. *lam*(*b*), Gk. τύραννος, A.S. *lǣnan*, A.S. *midde*, with gen. suffix and excrescent *t*, cp. *whilst*, *amongst*, A.S. *ðūma*, M.E. *soun*). Note, with suffixed *d*, G. *irgend* = O.H.G. *iergen*, *io* (G. *je*) *wẹrgin* (A.S. *hwẹrgen* 'anywhere') (*-gin* = Goth. *-hun*, L. *-cunque*).

LOSS.

Deaspiration. Take as examples of the lifting of the aspirate these:—οὖλος dialectical, L. *sollus*; ἄθροος dissimilated by θ; ἄτερ 'without,' cp. Goth. *sundrō*, A.S. *sundor* (E. *sunder*), O.H.G. *suntar* (G. *sondern*, *besonders*), with which some connect ἄνευ, O.H.G. *āno* (G. *ohne*); ὄφρα (ὁ-φι-αρα) dissimilated by φ; ἔθος by dissimilation; ἔρση (Sk. *varshás*) by influence of anaptyctic ἐ(*F*)έρση; ἀνύω for ἁνύω (Sk. *san* 'accomplish') (due to dissimilation effected in the second person sing. of the present where ἄνεσαι became ἄνεhαι, or to the influence of the Greek representative (seen in ἄσμενος for *F*η̣σμενος) of Sk. *van* 'desire, obtain') (Darbishire, Spiritus Asper); ἔνος and ἕνος, which come from different roots that have got mixed, cp. Sk. *sánas* (*anyás*, Gk. ἔνιοι), L. *senex*, Goth. *sineigs* 'old,' E. *syne*; *prēnsus* for *prehēnsus*.

Aphaeresis. Examples are *cōnīvēre* (*cōgnīvēre*); *sub*, *super*, cp. Gk. ἐξύπερθε; *lātus* for *tlātus*; *lac* (Gk. γάλα); *nātus* (cp. *cōgnātus*); *nōscō* (cp. *īgnōscō*); *narrō* (cp. *īgnārus*); *liquiritia* (Gk. γλυκύρριζα); *vīvus* (A.S. *cwic*); *veniō* (Goth. *kwiman*); *Jūpiter* and *Diespiter*; *Jānus* and *Diāna*; *laena* from Gk. *χλαῖνα*, by influence of *lāna* which has lost a *v* (cp. *vellus*); *tegō* (Gk. *στέγω*); *pūmex* (*spūma*); *fungus* from *σφόγγος*; *mordeō* (O.H.G. *smerzen* (G. *schmerzen*)); *nix* (Goth. *snáiws*); *langueō* (A.S. *slæc* 'slow'). Note also E. *loaf*, *clad*, *raven*, *lisp*, *root* (A.S. *hlāf*, Chaucer's *yclad*, A.S. *hræfn*, A.S. *wlisp* adj., A.S. *wrōtan*); *μῶνυξ* for *σμωνυξ*; *μία* for *σμια*.

Ecthlipsis. Convenient examples of the crushing-out of consonants are furnished by the Anglo-Saxon dropping of *d*, ð, *s*, and *st* before verbal *st*. See also under Contraction.

Apocope. Examples are *γάλα* (*γάλακτος*), *ἔλεγε(τ)*, *οὕτω(δ)*, *καλῶς* = *καλωδ* (the *ς* in such words is due to the retention of the *ς* that had been generated from the *δ* in certain conditions of the sentence-life of the word), *lac* (*lactis*), *cor* (*cordis*), *os* (*ossis*), *far* (*farris*), *mel* (*mellis*), *praedā*(*d*), *equō*(*d*), *marī*(*d*), *legitō*(*d*).

Many general examples are scattered up and down in Chaps. II., III., and IV. Many examples of English sound-processes are to be met with in Chaps. VIII. and IX.

It will be necessary to give a little space to a notice of the **laws for finals in Teutonic** (Auslautsgesetze).

Notice the following facts concerning finals in Primitive Teutonic:—

1. Final *m* became *n*. This when protected by a particle remained—Goth. *þana*, but otherwise, as did original *n*, dropped after short vowels—Goth. *wulf* (*a*), Gk. *λύκον*, L. *lupum*.

After long vowels the nasal lost quantity, dropping off afterwards in the individual languages.

Goth. *taíhun* 'ten,' *sibun* 'seven' retain their final *n* owing to the influence of the ordinals *taíhunda*, **sibunda*.

2. The sounds that were developed out of original *t* and *d* dropped off—Goth. *hwa* (L. *quod*), Goth. *bērun* (*bērunþ*).

3. Original *-ōi̯*, *ōu̯* became *-ai*, *-au*—Goth. *gibái* 'to a gift,' cp. Gk. χώρᾳ for χωρᾱι, Goth. *ahtáu* 'eight' (**oktṓu̯**), *anstāi* 'to a favour' (**anstēi* loc., cp. Gk. πόληϊ).

Otherwise the endings in Teutonic were full endings.

The following laws about finals hold in Gothic :—

1. Long vowels that were originally final, or had become final in Primitive Teutonic, were shortened in polysyllabic words—Goth. *juka* 'yokes' (Sk. *jugā́*, O.L. *jugā*), Goth. *baíra* 'I bear' (Gk. φέρω), Goth. *hwamma* 'to whom,' cp. *hwammēh* 'to every one.'

Long vowels remained in monsyllables, and in words that originally ended in nasals—Goth. *þō* acc. sing. fem., Dor. τᾱ́ν, Goth. *haírtō* nom. sing. 'heart' (**hertōn*).

2. Short vowels, excepting *u*, that were originally final, or had become final in Primitive Teutonic, dropped off. This law applies to the final syllables of polysyllabic words that ended in a single consonant, unless that were consonantal *i* or *u*. Examples are Goth. *wáit* 'I know' and 'he knows' (Gk. οἶδα and οἶδε), Goth. *af* 'from' (Gk. ἀπό), Goth. *bairiþ* (Sk. *bhárati*), Goth. *wulfs* (Gk. λύκος); but *filu* 'much' (Gk. πολύ). The law is inoperative in the case of original monosyllables—Goth. *is* 'he' (L. *is*), Goth. *hwa* 'what' (L. *quod*).

3 Short and original final *-ai̯* and *-oi̯* became *a* in polysyllables—Goth. *báirada* 'he is borne' (Gk. φέρεται), *daga* 'to a day' (**dhoghu̯oi̯** loc.).

Of consonants the only primitive final kept in Gothic was *s*. The only primitive consonant-group that remained finally was *ns*.

Teutonic -ƀ, -đ, -ʒ, -*z* were unvoiced finally. Final -*rz* passed to -*r* through -*rr*.

The following are the laws relating to West Germanic finals:—

1. Final long vowels coming down from Primitive Teutonic were shortened in West Germanic—O.H.G. *biru*, A.S. *bere* (in West Saxon the optative termination -*e* displaced -*u*, note Mercian *beoru*, North. *bero* (Gk. φέρω)); belonging to the *ā*-declension A.S. *giefu*, (O.H.G. *geba* is the acc. form), cp. Goth. *giba* (in Gothic orig. -*ā* and -*ō*, when shortened, came to *a*, and not *u*, as in other Teutonic languages); O.H.G. *riri* (**rizī*) imp. subj. 3 sing. of *rīsan* 'fall.'

2. After this law, there operated the law of syncope referred to above, by which the short vowels of dissyllables, when final, or followed by one consonant, dropped off if the first syllable were long. This dropping off also took place in polysyllables with a secondary accent on the penult. Examples are A.S. *wulf* voc., O.H.G. *wolf* from **wulfi* **wulfe* (Gk. λύκε); A.S. *wulf* nom., O.H.G. *wolf*, from **wulfaz* (Gk. λύκος); O.H.G. *irdīn* (G. *irden*) (**irþīnaz*), A.S. *bireð*, O.H.G. *birit* (**biriđi*). Note with short first syllable these:—O.H.G. *fihu* (L. *pecu*), A.S. *wini* 'friend,' O.H.G. *wini* (**winiz*). Levelling sometimes furnishes seeming exceptions, e.g., A.S. *ber* 'bear' imperat., O.H.G. *bir* (Gk. φέρε). These took after imperatives that dropped the vowel according to rule.

3. There was a later shortening of long vowels occurring in polysyllabic words that had dropped -*n* or -*z* after the long vowel; in -*ē* and -*ō* from the -*ai* and -*au* that were either already final in Primitive Teutonic, or had become

so by loss of *-z*; and in the *-ī* that came from *-ii̯i*. Examples are A.S. *hana* 'cock,' O.H.G. *hano* (Teut. *χanōn*); A.S. *męnigu* (the *-u* taken over from the *ā*-declension), O.H.G. *managi* (Teut. *managīn*); A.S. *dæge*, O.H.G. *tage* (**daʒai* loc. as dat.), cp. Gk. *οἴκοι*; A.S. *eahta* 'eight,' O.H.G. *ahto* (**oktṓu̯**); O.H.G. *wili* 'thou wilt' (**wilīz* orig. optative of a verb in *-mi*); O.H.G. *gesti* nom. plu., from **ʒastīz* **ʒastii̯iz*, cp. Goth. *gasteis*.

Final *-z* dropped off in West Germanic, *-s* remained, but had in many cases been supplanted by *-z*. See Chap III., under *s*.

When by the action of the laws for finals a nasal or a liquid (preceded by a mute) lost the succeeding vowel, it became vocalic, acquiring syllabic power; in West Germanic a vowel was often generated—Goth. *akrs fugls*, A.S. *æcer fugol*, O.H.G. *acchar fogal*. In such a position consonantal *i* or *u* became of course vocalic—Goth. *hiri* 'come here,' old imperat., for *hirji* (2 plu. *hirjiþ* 'come ye here').

These remarks, supplementing incidental remarks made in Chaps. II., III., and IV., must suffice.

This seems the place to speak of the action of that important agent in sound-change called Analogy.

In Chaps. II.-IV. have appeared numerous illustrations of the reign of Phonetic Law.

These two principles are the prime solvents in matters phonological, and account between them for the form of all the native words in a language.

In dealing with foreign words the effect of their own proper phonetic laws has to be discounted.

Owing to the intimate inter-relations of Phonetic Law and Analogy, the second remodelling the work of the first, and toning down the diversity produced by its action, a clear conception of the scope and action of the one involves something similar regarding the other.

Phonetic Law is correctly, if somewhat grandiosely, defined by the now well-known shibboleth 'Phonetic Laws have universal validity' (Allgemeingiltigkeit). This truth is not empirically demonstrable by proof got from any random examples blindly chosen, but only deductively necessary by consideration of what is causal and initial in sound-processes. Sound-change as a rational process on large lines, and as the organic agent its results show it to be, does not begin with a few words, and get extended to others, but is due to the induced action of the pronouncing organs, which, supplying the accomplishing impetus, will in every word similarly mould the same sound every time it is acted on in the given circumstances.

It cannot then happen that a sound-change will take place in certain cases, and in certain other similar cases not take place. *Die Lautgesetze wirken blind, mit blinder Nothwendigkeit* (Osthoff). Two different results cannot (unless as different stages of development) be referred as descendants to one sound-group.

The possible *doppelformen* must bear the relation of *mutterformen* and *tochterformen*. *Schwesterformen* are inadmissible. For instance μείζους and μείζονος cannot both be derivatives from a form μειζονσος. μείζους comes regularly from μειζοσος (Sk. *máhīyasas*), while μείζονος is an *associationsbildung*, getting its ν from μείζων.

Within a prescribed area (and in the case of individual laws, it may be, a prescribed period), phonetic law is absolute and admits of no exceptions. That area is the one in which the phonetic material to be reasoned on has accumulated.

Not that here all is explicable. After everything that comes under the head of analogical change has been allowed for, after everything foreign, every *dialectmischung* has been discounted, even after observation has been confined to the average speech, there remains much that is inexplicable. Part of this inexplicability is due to the fact that before we can discern the action of laws we must know them, and we cannot be said to know all the laws that have wrought on phonetic material. All this has to be admitted, but let not therefore sporadic change (Lautvertretung) be ranked as a solvent.

As an instrument in practical research, Phonetic Law suggests lines of investigation, supplies tests of truth, and warns us off impossible tracks.

If one considers the large mass of regular phonetic change, there is nothing for it but to assume the working of regular phonetic law. Its adoption as a working hypothesis has begotten methodic research, has led to scrupulous accuracy, and has stamped out narrow generalisations. Its positive results are many, and of much moment. All through these chapters there appear proofs of this.

Analogy, as distinguished from Phonetic Law, is a constructive force. It introduces method; it fixes bounds; it sorts the stuff that phonetic law disarranges; it reduces useless isolation; it seeks for harmony; it forms proportions; it runs series. Grouping and system argue its presence, ungrouped and straggling forms are likely, when interpreted, to furnish illustrations of the working of phonetic law.

Analogy is the psychological factor in language, Phonetic Law is the physiological. The latter is a pioneering force, partly creative, partly destructive, the former, a reserve force, auxiliar and architectonic.

Analogical action in a particular direction is never necessary. Its detection depends on individual skill, and is not a consequence of its *a priori* presence.

An analogical formation does not oust the old formation. The two may long co-exist.

Analogical explanations are to be submitted to subjective tests, any conviction they may carry with them is external, and based on the number of parallel instances.

Phonetic Law and Analogy complement one another. The more strictly we stand by the one, the more frequently have we to bring in the other.

Examples of the working of analogy will close this chapter.

These may conveniently be classified under the heads (1) Meaning into Form; (2) Form into Meaning; (3) Form into Function; (4) Function into Form.

Likeness in meaning or kind has led to approximation in form; likeness in form, to misapprehension or misplacement of the meaning of the name, or to misapplication of significant elements; and likeness in function, to transference of formal and functional elements.

Head (2) furnishes examples of what is called popular etymology (Volksetymologie).

MEANING INTO FORM.

Some of the most common instances of the workings of analogy on these lines are seen in certain results produced by levelling.

These appear (1) in Nouns and Adjectives, and are caused by the influence of case on case:—Gk. ἡδέσι, πήχεσι, πόλεσι, φρεσί for the regular (with weak grade) forms ἡδυσι, πηχυσι, πόλισι (Ionic), φρασί (α = η̣) (Pindar), by influence of the other cases, cp. also ἀρνάσι for ἀρασι (α = η̣), with ν from other cases; L. *honor* and *arbor* for *honōs* and *arbōs*, by influence of the *r* of oblique cases, *patrēs*, &c., with an *ē* got from influence of *ovēs*, &c. (*ovēs* = *oveis* = *ovejes*); *yellow* (A.S. *geolu*), *shadow* (A.S. *sceadu*), also *shade*—these words get *w* from the oblique cases; G. *rauh* (M.H.G. *rūch rūhes*), &c.—in such words the *h* of inlaut has generally supplanted the *ch* of auslaut, but we have still such contrasts as *hoch höher*: (2) in Verbs, and are caused by the influence of person on person, number on number, and case on case:—Gk. πέπλεχα (cp. κέκλοφα), due to the ε of πλέκω, &c.; *took* and *drove* used as participles; Fr. *vois voyons* for *vois véons* (L. *vídes vidémus*); G. *fliege fliegst fliegt* for *fliege fleugst fleugt*; G. *schnitt schnitten* for O.H.G. *sneid snitum*: (3) in Derivatives, and are caused by the influence of primitives:—*leafage* for *leavage*, by influence of *leaf*; G. *antwort* (M.H.G. *antwurte*), a reformate after *wort*; Ital. *novanta* for *nonanta*, by influence of *novem*.

The influence noticed under the last head is sometimes reversed:—Lesb. πέμπε after πέμπτος, *pătron* with sound heard in *pătronage*, instead of the usual name-sound of *a*, though the normal influence between primitive and derivative is also evidenced by the other pronunciation of *patronage*.

The changes produced by etymologising may be brought under the head of levelling—*fault* (M.E. *faute*), by accommodation to *fallere*, *throne* (M.E. *trone*), by accommodation to θρόνος.

Related meanings lead to approximation or contamination in form. Examples are Sk. *nápātam náptrā* (for *náptā*), after *pitáram pitrā́*, &c.; Gk. εἴκοσι with ο from the numbers with -κοντα; Gk. τρίτατος modelled on ἔνατος δέκατος; Gk. ἧμαι with aspirate from association with ἕζομαι as its perfect; Gk. ἐμοῦ with ἐ- from the nom. ἐγώ (cp. Mod. Gk. ἐσύ); Fr. *tien sien* (O.Fr. *tuen suen*) by analogy of *mien* (O.Fr. *mien*).

For an example of contamination take *itineris* gen. of *iter*, due to the mixing of two genitives *iteris* and *itinis*; O.H.G. *bim* (G. *bin*) produced by the mixing of the products of two roots, viz., *bheu̯-* and *es-*, cp. A.S. *bēom* and Goth. *im*.

Formal characteristics are often due to association in meaning. Thus the Greek nouns of the second declension ending in -ος, and meaning 'way,' assume the gender of ὁδός; names of towns assume the gender of πόλις; Latin names of trees take on the gender of *arbor*; *humus* takes on that of *terra*; Fr. *été* masc. (L. *aestatem* fem.) goes over to the gender of the other seasons *hiver*, *printemps*.

The relation that subsists between congeneric words often leads to an adaptation of form to form. Examples are Gk. ὄπισθεν with σ from πρόσθεν; Gk. μηκέτι with κ from οὐκέτι; Gk. ἐμποδών modelled on ἐκποδών; Gk. ἡμεῖς (Æolic ἄμμες) with aspirate from ὑμεῖς (Sk. base *yushmad*); L. *gravis*, which assumed in Vulgar Latin the vowel of *levis*, whence Ital. *greve*; *female* (M.E. *femele*, O.Fr. *femelle*) by influence of *male*; *neither* (A.S. *nāuðer*, Prov.E. *nother*, E. *nor*), by association with *either* (A.S. *ǣgðer*).

I may here give one or two examples taken from Bloomfield's most suggestive article 'On adaptation of suffixes in congeneric classes of substantives' in the American Journal of Philology, Vol. XII. 1., from which I have borrowed the words 'congeneric' and 'adaptation.'

In this article he gives good reasons for attributing the form of πούς to the influence of ὀδούς, both denoting parts of the body; for attributing the *u*-inflection of Goth. *fōtus* to the action of *handus*, which has the *u*-inflection in Teutonic, though probably this was not the original inflection. The impulse towards the *u*-inflection was first given by *kinnus* 'chin, cheek,' an original *u*-stem (Sk. *hánus* 'jaw,' Gk. γένυς 'jaw,' L. *genuīnus* 'belonging to the jaw'). There first ensued a *rapprochement* between the declensions of **kinus*, and of the stem *hand-*, this being furthered by the presence in the latter of the quasi-*u*-forms that represented original *ṃ* and *ṇ*, viz., acc. sing. *handu*(*m*), dat. plu. *handum*(*i*), acc. plu. *handuns*.

These two words, the one originally, the other secondarily, of the *u*-declension, then influenced the congeneric nouns with which they must have been often paired, *handus* dominating *fōtus*, and *kinnus*, *tunþus*.

In the same article he speaks of the *t* of Goth. *hweit*(*a*)*s* 'white' (*ku̯ei̯tós*) as perhaps due to the influence of the congeneric *swartas* (*su̯ordos*).

He attributes also the extensive employment of stems in *r* and *n*—Gk. ἧπαρ ἥπατος (ατ = ṇτ), L. *jecur jecinoris*; οὖθαρ οὔθατος (ατ = ṇτ); L. *femur feminis*; L. *accipiter* (cp. Gk. ὠκύς, πτερόν; popularly connected with *accipiō*) and *penna* (*petna*); &c.—to the exertion of analogical influence by a few nouns.

Similarly the appropriation of the suffix -*κο*-, -*κ*-, by certain Greek class-names (birds, animals, plants)—*γλαῦξ* 'owl,' *κόραξ* 'crow,' *κόκκυξ* 'cuckoo,' &c.; *αἴξ* 'goat,' *ἀλώπηξ* 'fox,' *πτώξ* 'hare,' &c.; *δόναξ* 'reed,' *ῥάξ* 'grape,' *θρίδαξ* 'lettuce'; &c.—is due to the influence of certain dominant congeneric nouns.

FORM INTO MEANING.

An alteration of form usually goes with the new or perverted meaning read into the old form.

Examples are *incentive* (*incinere* 'to give the note') associated with derivatives of *incendere* and so misused; *cutlet* (Fr. *côtelette* (L. *costa*)) associated with *cut*; G. *wahnsinn* (cp. E. *wanhope, wanton*) from adj. *wan* 'empty' associated on the disappearance of this word with the noun *wahn* 'delusion'; Gk. Ἱεροσόλυμα 'Jerusalem' owing its form to association with *ἱερός*; E. *belfry* (O.Fr. *berfroi*, M.H.G. *bercvrīt* 'watch tower' (cp. G. *bergen* protect and *friede* 'peace')) got from association with *bell*; E. *crayfish* (M.E. *crevis*, O.Fr. *escrevisse, crevisse*) got from accommodation to *fish*; E. *causeway* (O.Fr. *caucie*, L.L. *calciata* (*via*)) by accommodation to *way*; E. *mystery*(-plays), acted by craftsmen (O.Fr. *mestier*, L. *ministerium*), from association with *mystery* (Gk. *μυστήριον*); G. *eiland* (M.H.G. *eilant* 'solitary land') associated with (*ei* 'egg' and) *land*; *echt* 'real' (M.H.G. *ē-haft*, *ē* (G. *ehe*) 'law') commonly associated with *achten* 'value,' and written *ächt*; G. *sündflut* 'deluge' (O.H.G. *sin-vluot* 'great flood,' cp. G. *singrün*, Goth. *sineigs*, E. *syne*) got from association with *sünde* 'sin'; G. *maulwurf* 'mole'

(M.H.G. *moltwerf* 'mould thrower,' cp. Shakspeare's *moldwarp*, Sc. *mowdiewart*) a 'volksetymologische Umbildung' on *maul* 'mouth.'

FORM INTO FUNCTION.

Certain common endings have been generalised. They have ousted strange endings that bore more or less resemblance to themselves. For example, *pleasure* (O.Fr. *plaisir*) has fallen with *measure*, *nature*; *tardy* (O.Fr. *tardif*) has taken after *guilty*, *weary*; *surgery* (O.Fr. *cirurgie*) has accepted the yoke of *sorcery*, *thievery*, &c.; *sausage* (O.Fr. *saucisse*) has gone over to *courage*, *visage*, &c.; *syllable* (O.Fr. *sillabe*) has put on the ending of *parable*, *constable*, &c.; and *reprimand* (L. (*res*) *reprimenda*) has been accommodated to *command*, *demand*.

Just so with prefixes. The aggressive *n* of the new contingent of Latin words has replaced its descendant in *inspire* and *intend*, &c., and threatens to do so in words like *enquire*.

Notice too, how in *recount*, *repeal*, *refine*, *re-* has regained living fulness, and in its re-growth, cramped out of existence the *a* (L. *ad*) of the Old French originals *raconter*, *rapeler*, *raffiner*. *Advantage* (M.E. *avauntage*, O.Fr. *avantage* (*ab*, *ante*)) bears witness to the assertiveness of *ad*. So too with the related *advance*.

FUNCTION INTO FORM.

A transference of elements is seen in Σωκράτην for the regular Σωκράτη, in the imposition of the endings of *nt*-stems on λέων, an *n*-stem (cp. L. *leō leōnis*); in the extension of the genitive ending *-s*, in English and German, beyond its former sphere—E. *lady's maid* and *lady-day*, G. *des vaters* and M.H.G. *des vater*, G. *liebesschmerz*, where the *s* is due to analogy and not to atavism (in Gothic the gen. fem. exhibits *s*); in the encroachments of umlaut, in German, into other than *i*-stems—G. *töchter* and O.H.G. *tohter*; in the extension of the long vowel proper to the subjunctive of thematic verbs to non-thematic verbs—non-thematic ἴωμεν (Homeric ἴομεν); in the assumption of the augment by χρῆν = χρή noun, ἦν; in the appearance, in πεντάπους and ἑξάπους, of α, which had apparently acquired a sort of functional value from its occurrence in cpds. of ἑπτά, δέκα, ἐννέα; in *-nist* for *-ist* in *tobacconist*, from influence of *pianist*, *machinist*, &c., in the *-tism* of *egotism* (cp. *egoism*); in the generalisation of the verbal *-igen*, properly belonging to adjectives in *-ig*, evidenced by its appearance in *reinigen*, *huldigen*, *befriedigen*.

Some of the examples appearing under this and other heads might be given as examples of what is called proportional analogy—Σωκράτης : Σωκράτην : : πολίτης : πολίτην; λέων : λεοντα : : γέρων : γέροντα. εἴρηκα (ϜεϜερηκα) by its action as a member of proportional groups is said to have caused the manufacture of εἴληφα, and εἴληχα (-είλοχα and -είλεγμαι).

CHAPTER VI.

ABLAUT AND ACCENT.

ABLAUT (vowel-gradation) is the name given to sound-variations in the vocalic elements of cognate words, or word-factors. These variations may occur in suffix as well as stem. Examples from Greek are most instructive, for the vocalism of that language has best preserved its original complexion. To illustrate the definition notice these:—λέγω, λόγος; λείπω, λοιπός, ἔλιπον; ἐλεύσομαι, εἰλήλουθα, ἤλυθον; ἀνάθημα 'offering,' θωμός 'heap'; ἔχετε, ἔχοντι (ἔχουσι); ἵππος, ἵππε.

These examples make plain the existence of some sort of methodic vowel-colouring. Before saying anything of the cause or quality of this, it will be well to put down in tabular form a definite portion of the facts that are to be reasoned on. Ablauts are arranged into various series, or *reihen*, as the Germans call them, according as they exhibit certain alternations of vocalic sound.

The ablaut-series are six in number, and receive these names:—(1) *e*-series, (2) *ē*-series, (3) *ā*-series, (4) *ō*-series, (5) *a*-series, (6) *o*-series. The *e*-series may further be subdivided into (*a*) *e*-series proper, (*b*) *ei*-series, (*c*) *ou*-series, (*d*) *er*-series, (*e*) *el*-series, (*f*) *em*-series, (*g*) *en*-series.

Omitting Sanskrit, which has merged members of the series, and Latin, which is not at all sensitive to variations of the root vowel, the sounds that constitute these series in the languages we have under consideration may be set down as follows :—

		Strong Grade				Weak Grade	
		I.	II.			III.	
		1.	2.	3.	4.	*a.* (no acct.)	*b.* (sec. acct.)
1. (*a*) *e*-series	I.E.	e	o	ē	ō	O	(e)
	Gk.	ε	ο	η	ω		ε
	Teut.	e, i	a	ǣ	ō		e
	Goth.	i, aí	a	ē	ō		i
	A.S.	e, i	æ	ǣ	ō		e
	O.H.G.	e, i	a	ā	ō		e
(*b*) *ei*-series	I.E.	ei̯	oi̯			i	ī
	Gk.	ει	οι			ι	ῑ
	Teut.	ī	ai			i	ī
	Goth.	ei = ī	ái			i	ei = ī
	A.S.	ī	ā			i	ī
	O.H.G.	ī	ei, ē			i	ī
(*c*) *eu*-series	I.E.	eu̯	ou̯			u	ū
	Gk.	ευ	ου			υ	ῡ
	Teut.	eu	au			u	ū
	Goth.	iu	áu			u	ū
	A.S.	ēo	ēa			u, o	ū
	O.H.G.	io, iu	ou, ō			u, o	ū
(*d*) *er*-series	I.E.	er	or			r̥	r̥̄
	Gk.	ερ	ορ			αρ, ρα	ορ, ρω
	Teut.	er	ar			ur	
	Goth.	aír	ar			ur	
	A.S.	er(eor)	ær			ur, or	
	O.H.G.	er	ar			ur, or	
(*e*) *el*-series		Repeat the above *mutatis mutandis.*					
(*f*) *em*-series	I.E.	em	om			m̥	m̥̄
	Gk.	εμ	ομ			α, αμ	
	Teut.	em	am			um	
	Goth.	im	am			um	
	A.S.	im	am, om			um	
	O.H.G.	em, im	am			um, om	
(*g*) *en*-series		Repeat the above *mutatis mutandis.*					

1. (*a*) *e*-series.

For example of ablaut I., take Sk. *pitáram*, Gk. πατέρα; of ablaut II., Gk. εὐπάτορα, Goth. *fadar* (this word, however, only occurs once in Gothic and that in the nom. or voc. sing.); ablaut III.*a.*, *-tr-* (no vowel) in Sk. *pitrā́* instr. sing., Gk. πατρός, Goth. *fadrs* gen. sing.; of ablaut III.*a.*, *-tṛ-* (lingual vowel) in Sk. *pitṛ́shu* loc. plu., Gk. πατράσι, Goth. *fadrum* dat. plur.

This word owing to the presence of *r*, a letter with vocalic leanings, may have two forms of ablaut III.*a.*, one vowelless, the other exhibiting the usual representations of *ṛ*.

Sk. *pitā́*, Gk. πατήρ, L. *pater* (for *patēr*), are examples of outlying *ē*, Gk. εὐπάτωρ (cp. L. (*da*)*tor* for (*da*)*tōr*), of outlying *ō*.

Root *sed-* furnishes some excellent examples—ablaut I. = Gk. ἕδος 'seat,' L. *sedeō*, *sella* (*sedla*), Goth. *sitan*, A.S. *setl*; ablaut II. = Goth. *satjan* 'set,' A.S. *sętten* (the *ę* is got by *i*-umlaut); ablaut III.*a.* = Gk. ἵζω(σισδω) 'seat,' L. *sēdī* (*sezdī*, *sesdī*); ablaut III.*b.* = A.S. *seten* p.p. Outlying long vowels = Goth. *sētum* pret. plu., A.S. *sǣton*, A.S. *sōt* 'soot' ('a settling').

(*b*) *ei*-series.

For example of ablaut I., take Gk. εἶδον 'I saw;' of ablaut II., Sk. *véda* 'I know' (perf. used as pres.), Gk. οἶδα, Goth. *wáit*, A.S. *wāt* (E. *wot* (Ch. *woot*)), O.HG. *weiʒ* (G. *weiss*); of ablaut III.*a.* Gk. ἰδεῖν, L. *vidēre*, Goth. and A.S. *witan* 'know,' O.H.G. *wiʒʒan* (G. *wissen*); of ablaut III.*b.*, L. *vīsus* 'seen,' Goth. *weis* 'wise,' A.S., *wīs*, O.H.G. *wīsi* (G. *weis*).

(*c*) *eu*-series.

For example of ablaut I., take Gk. γεύω 'I give to taste,' γεύομαι 'I taste,' Goth. *kiusan* 'choose,' A.S. *cēosan*, O.H.G. *kiosan* (G. *kiesen*); of ablaut II., Goth. *káus* pret., A.S. *cēas*, O.H.G. *kōs*. Ablaut III.*a*. appears in Goth. *kusuns* p.p., A.S. *gecoren* p.p., *curon* pret. plu., O.H.G. *gikoran*.

(*d*) *er*-series.

For example of ablaut I., take Gk. φέρω, L. *ferō*, Goth. *baíran*, A.S. and O.H.G. *beran* (G. *gebären*); of ablaut II., Gk. φορός, Goth. *bar* pret., A.S. *bær*, O.H.G. *bar*. Ablaut III.*a*. appears in L. *fors* 'chance,' A.S. *geboren* p.p.

(*e*) *el*-series.

For example of ablaut I., take Gk. ἕλκω 'I draw'; of ablaut II., Gk. ὁλκός 'rollers, track'; of ablaut III.*a*., Goth. *wulfs*, A.S. *wulf*, O.H.G. *wolf*.

(*f*) *em*-series.

For example of ablaut I., take Gk. νέμω 'I distribute,' νέμος 'pasture,' L. *nemus* 'grove,' Goth. and A.S. *niman* 'take' (E. *nimble*), O.H.G. *neman* (G. *nehmen*); of ablaut II., A.S. and O.H.G. *nam* pret. Ablaut III.*a*. appears in A.S. *genumen* p.p., O.H.G. *ginoman*.

(*g*) *n*-series.

For example of ablaut I., take Gk. τείνω = τενι̯ω 'stretch, L. *tendō*; of ablaut II., Gk. τόνος 'tone,' L. *tonō* 'I thunder,' Goth. (*uf*)-*þanjan* 'stretch out,' A.S. *ðęnnan* (*ę* from *a* by *i*-umlaut); of ablaut III.*a*., Gk. τάσις 'stretching,' A.S. *ðunor* 'thunder,' O.H.G. *donar* (G. *donner*).

Most ablaut-formations in Indo-European belong to one or other of the various sub-divisions of the *e*-series. In fact, the dominant position of *e* and *o* (or their substitutes) is one of the most outstanding features of ablaut.

The vowel correspondences hat various settings of *e*- and *o*-sounds present in Indo-European alternate with each other according to a pre-established law of harmony. The appearance of this or that variety seems conditioned by the working of the elements of accentual action, viz., pitch and stress.

Not that it is permissible to suppose that one original vowel, say *e*, took on itself in certain circumstances the nature and semblance of *o*, for these appearances were felt to be, and were, mutually independent sounds.

Most likely so much of original individuality as is implied in the nomenclature a^e a^o (Chap. II. page 17), is to be assigned to the forms of the *e*-series. To say that the sounds appearing in the strong grade of the *e*-series have been always different to a degree, and without any *rapprochement*, and that their existence has been co-eternal, is perhaps an attempt to solve the dualism by assuming the impossibility of its opposite.*

Sweet says: "Under the acute accent, *a* became *e*, under the circumflex (the syllable following an acute, unless another acute succeed, when the accent is grave), it became *o*, and under the grave, it was dropped altogether."

Whatever the real conditions may be for the appearance of one or other member of the strong grade, whether or not original occurrence under the acute and under the circumflex accent covers all that is implied in the appearance of *e*-forms and *o*-forms—and certainly *e* has naturally a high, *o*, a low pitch—there is no doubt whatever of the cause that gives now strong grade and now weak grade.

That cause is the presence or absence of the principal accent.

In Sanskrit, which has best preserved the Indo-European accentuation, the weak grade vowel, as a rule, occurs in the stem-syllables of words that bear the accent on their inflexional elements, and even in Greek, where recession has wrought havoc on the original free accent, there still remains considerable *débris* to illustrate the conditions that induced the weak grade. Note the grade in the following Greek words that have preserved the original accent (as indeed oxytones very often have):—πυστός, verbal of πεύθομαι, λιπεῖν, aor. inf. of λείπω. When recession set in, the vocalic quality of syllables had been fixed, and did not change with the changing accent, e.g., ἴμεν, 1 plu. pres. of εἶμι 'go,' must originally have had the oxytone accent, but the change in accentuation did not alter the vowel.

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* See the account of Merlo's theory at the end of this chapter.

With these few remarks the tables ought to be self-explanatory.

There are two distinct forms in the strong grade, and one form in the weak grade, with more than one manifestation. It will be noticed that the *e*-series has attached to it outlying forms with the long vowels *ē* and *ō*, occurring presumably under the same conditions as *e* and *o*. In the same series the weak grade *a* is vowelless, e.g., πτέσθαι, aor. inf. of πέτομαι.

It is difficult to believe that in forms like this the loss of vowel can be accounted for by a mere lowering of pitch. It would seem that the transference of the accent involved transference of stress, in fact, that the acute accent was accompanied by a strong stress.

The developed vowel of weak grade *b.* (written ε, &c.) can hardly have been pronounced like the same vowel in strong grade. The development of the vowel is partly due to the necessity of making the form pronounceable, e.g., σκεπτός, partly due to the analogy of the strong forms.

Here follow tables of (2) the *ē*-series, (3) the *ā*-series, (4) the *ō*-series, (5) the *a*-series, (6) the *o*-series.

		Strong Grade		Weak Grade	
		I.	II.	III.	
		1.	2.	*a.* (no acct.)	*b.* (sec. acct.)
2. *ē*-series	I.E.	ē	ō	O	ə
	Gk.	η	ω		ε (for α)
	Teut.	ǣ	ō		a
	Goth.	ē (ai)	ō		a
	A.S.	ǣ	ō		æ
	O.H.G.	ā	uo		a
3. *ā*-series	I.E.	ā	ō	O	ə
	Gk.	ᾱ(η)	ω		α
	Teut.	ō	ō		a
	Goth.	ō	ō		a
	A.S.	ō	ō		æ
	O.H.G.	uo	uo		a
4. *ō*-series	I.E.	ō	ō	O	ə
	Gk.	ω	ω		α(ο)
5. *a*-series	I.E.	a	ā	O	(a)
	Gk.	α	ᾱ(η)		α
	Teut.	a	ō		a
	Goth.	a	ō		a
	A.S.	a	ō		a
	O.H.G.	a	uo		a
6. *o*-series	I.E.	o	ō	O?	(o)
	Gk.	ο	ω		ο

There are some who explain the long vowels of the long series as compressions of diphthongic combinations of *e* and *o* with the vowel seen in the weak grade (cp. *ei*, *oi*, *i*). But such explanations are very much in the air.

2. *ē*-series.

For example of ablaut I., take Sk. *dádhāmi* 'I place,' Gk.

τίθημι, Goth. *gadēþs* ‘deed,’ A.S. *dǣd*, O.H.G. *tāt* (G. *that*); of ablaut II., Gk. θωμός ‘heap,’ Goth. *dōms* ‘judgment,’ A.S. *dōm*, also *dō* ‘I do,’ O.H.G. *tuom*, also *tuot* ‘does’ (G. *thun*); of ablaut III.*a*., Sk. *dadhmás*, 1 plu. pres.; of ablaut III.*b*., Sk. *ádhita*, 3 sing. aor., Gk. ἔθετο, θετός.

3. *ā*-series.

For example of ablaut I., take Sk. *ásthām* 1 sing. aor., Gk. ἔστην, L. *stāmen* ‘warp.’ Ablauts I. and II. coincide in Teutonic—Goth. *stōma* ‘basis, substance,’ *stōls* ‘stool,’ A.S. *stōl*, O.H.G. *stuol* (G. *stuhl*). For ablaut III.*a*., take *tasthúsh-*, weak stem of part. perf. act.; for ablaut III.*b*., Sk. *sthitás* past part., Gk. στατός, στάσις, L. *statiō*, Goth. *staþs* ‘shore,’ A.S. *stæð*, O.H.G. *stado* (G. *staden*).

4. *ō*-series.

Brugmann gives no Teutonic illustrations of this ablaut. Ablauts I. and II. coincide. For example, take Sk. *dádāmi*, Gk. δίδωμι, δῶρον, L. *dōnum*. Of ablaut III.*a*., take as examples, L. *de-d-ī*; of ablaut III.*b*., Sk. *ádita* (*di* = *də*), 3 sing. aor., Gk. δάνος ‘gift,’ L. *datus*. In δοτός, δοτήρ, ἔδοτο, form-association brings in *o*.

5. *a*-series.

For example of ablaut I., take Sk. *bhágas* ‘distributer;’ of ablaut II., *bhāgas* ‘share, lot,’ Gk. φηγός ‘oak,’ L. *fāgus* ‘beech,’ A.S. *bōc* ‘beech,’ O.H.G. *buohha* (G. *buche*).

There are some examples of an *ai*-series, e.g., ablaut I., Sk. *ḗdhas* ‘firewood,’ Gk. αἴθω ‘kindle,’ L. *aedēs* ‘hearth, house,’ A.S. *ād* ‘pyre,’ *āst* ‘kiln’ (E. *oast-house*), O.H.G. *eit* ‘pyre’; ablaut III.*a*., Sk. *idhmás* ‘firewood,’ Gk. ἰθαρός ‘serene, pure’; of ablaut III.*b*., L. *īdūs* (*noctēs*) ‘the clear nights,’ A.S. *īdel* ‘empty’ (E. *idle*), O.H.G. *ital.* ‘pure, clear’ (G. *eitel*).

6. *o*-series.

Ablaut I. and ablaut III.*b*. coincide. For an example of ablaut I. take Gk. *ὀδμή*, L. *odor*; of ablaut II., *εὐώδης* 'sweet-smelling.' Teutonic instances are infrequent.

According to the tables, each family of words has a triple-barrelled root, and from each of the barrels have been shot those formations that affect the several ablauts. There can then, from a practical point of view, be no question of the root of a word, but only of the root-forms that find exemplars.

These radical *trigemini* need not, however, be taken too literally.

All three forms are not always found, indeed, some weak grades of great antiquity occur, which have no strong forms ranking with them, e.g., *θρασύς*. The guṇa theory, that original *i* and *u*, by the action of a multiplier *a*, gave products *ai* and *au*, which in European branched off into *ai*, *ei*, *oi*, and *au*, *eu*, *ou*, must with the establishment of the mutual independence of the root-forms be given up.

The fact that **certain formations favour certain ablauts** may be illustrated from Greek. Irregularities are due to form-association, or false analogy, as it is called. Late formations may also from the beginning take on them an ablaut different from that proper to original examples of the same formation. The accentuation also is not always what the ablaut postulates.

In verbal formations, ablaut I. is the ablaut proper to (*a*) the active singular of non-thematic presents—*εἶμι* (cp. *ἴμεν*), *φημί* (cp. *φαμέν*) (non-thematic = suffixing inflexional elements directly to root or stem, without the intervention of the thematic vowels *e* and *o*)—*κεῖμαι*, non-thematic middle with strong root, shows irregularity—(*b*) the active and middle, singular and plural, of thematic presents that belong to the first or *bhū*-class of the Sanskrit grammars—ἔχω, δέρω, φείδομαι 'spare,' φεύγω (*c*) the futures, active and middle—πέμψω, κείσομαι, πλεύσομαι (*d*) the first aorists, active and middle—ἔλεξα, ἔδεισα, ἔρρευσα (*e*) the first aorist passive—ἐστρέφθην, ἐπείσθην, ἐπνεύσθην.

In nominal formations, ablaut I. appears in (*a*) ες-stems—βέλος, τεῖχος, ζεῦγος, εὐμενής, but βάθος (also βένθος), πάθος, θράσος, κράτος have conformed to the vowel of βαθύς, ἔπαθον, θρασύς, κρατύς (*b*) nouns in -ας—σέλας 'brightness' (*c*) nouns in -τωρ, -τηρ, -της, -τρον—Στέντωρ, ἀλείπτης 'trainer,' ψε'στης, φέρετρον 'bier' (*d*) nouns in -ματ- and -μων—σπέρμα, λεῖμμα, γεῦμα 'taste,' τέρμων 'boundary,' πνεύμων 'lung' (*e*) comparatives and superlatives in -ιων, -ιστος—κερδίων, μέγιστος; θᾱ́σσων and ἐλᾱ́σσων are new formations, on the model of μακρός μᾱ́σσων, made after the nasality of their root-vowel had disappeared (the theoretical forms would have been θεγχίων, ἐλεγχίων) (*f*) words in -ανος, -ανον, ανη, -ονη—στέγανος 'covered,' λείψανον 'remnant,' ἑρκάνη 'fence,' βελόνη 'needle,' but these also appear with ablaut II.—χό(Ϝ)ανος 'melting-pot,' ὄργανον, ὀρκάνη 'enclosure.'

In verbal formations, ablaut II. is the ablaut proper to (*a*) the singular of the perfect active (sometimes the weak ablaut of the plural has asserted itself in the singular)—πέπομφα, λέλογχα (also εἴληχα, on the model of εἴληφα), εἰλήλουθα, but, except in the last example, ευ in the perfect has ousted ου, e.g., τέτευχα, πέφευγα (*e*) derived verbs in -ε(ι̯)ω—φορέω, στοιχέω, 'stand in a row.'

In nominal formations, ablaut II. appears in (*a*) nouns in -εύς—γονεύς φονεύς (*b*) many stems in ο and η—ἀοιδός, στοῖχος 'row,' φόρος, σκοπή, βολή, but ἔργον and λευκός have ablaut I., and ζυγόν and φυγή ablaut III. (*c*) stems in ι—τρόχις 'runner,' τρόπις 'keel,' but stems in -ιδ take both ablauts I. and II.—ἐλπίς, λοπίς 'scale' (*d*) many nouns in -αδ—δορκάς and φοιτάς 'one wandering about,' but φυγάς, &c., with ablaut III. (*e*) nouns and adjectives in -μος (-ιμος, -αμος), and nouns in -μη—πότμος 'fate,' λοιμός 'plague,' γόνιμος 'productive,' πλόκαμος 'curl,' ὁρμή, but θερμός has conformed to the other members of the group (θέρος, &c.), the original ablaut vowel being seen in Latin *formus.* Some nouns in -μος take ablaut I., and τιμή shows ablaut III.

In verbal formations, ablaut III. is the ablaut proper to (*a*) the dual and plural active, and the entire middle, of non-thematic present indicatives, which originally received the accent on the terminations—ἴμεν ἴτον (cp. εἶμι), φαμέν φατόν (cp. φημί), but ἐσμέν ἔστε, &c., have conformed, as may be seen from Sk. *smás*, L. *sumus*, and to the optative and participle of the same presents—φαίην, φάμενος (*b*) reduplicated non-thematic presents—Gk. πίμπλαμεν (Sk. *pipṛmás*) (*c*) reduplicated thematic presents—γίγνομαι (cp. γένος), πίπτω (cp. πέτομαι) (*d*) presents with inceptive suffix -σκ—πάσχω = πṇθσκω (cp. πένθος), φάσκω (cp. φημί) (*e*) certain verbs of the *iota*-class or *div*-class of Sanskrit — βάλλω = βḷι̯ω (cp. βέλος), φαίνω = φṇι̯ω (cp. πέφηνα), but many verbs of this class take ablaut I.—τείνω = τενι̯ω, στέλλω = στελι̯ω, φθείρω = φθερι̯ω (*f*) verbs of the νυ-class—μίγνῡμι, ἄγνῡμι (cp. ἔᾱγα), but δείκνῡμι and ζεύγνῡμι with ablaut I.; these verbs correspond to the Sanskrit *su*- and *tan*- classes, which form in reality one class, for *sunṓmi* : *su-nṓ-mi* : : *tanṓmi* : *tṇ-nṓ-mi* (*g*) nasal formations in αν-, with double nasal, and when followed by *i̯*—ἁμαρτάνω (cp. νημερτής 'unerring'), πυνθάνομαι (cp. πεύσομαι), ἁνδάνω 'please' (cp. ἔᾱδα), ἐρυθαίνομαι 'become red,' *τετραίνω* 'pierce' (cp. *τείρω*) (*h*) the dual and plural indicative active, optative and participles active, and the entire middle of the second aorist of *μι*-verbs (the singular indicative active has strong root, and the strong vowel of the singular has often been driven through the other persons)—*βάτην*, *ἔβαν*, *βαίην* (cp. *ἔβην*); *ἐπτάμην* (cp. *ἔπτην*); *ἐχύμην*, *ἐσσίμην* (cp. *ἔχευα*, *ἔσσευα*, which are not sigmatic aorists with *σ* dropped, but root-aorists, with an ablaut I. that originally only occurred in the singular (cp. for a similar alternating ablaut the *θη* and *θε* of the imperfect of *τίθημι*)— *α* : *η* : : *υ* : *ευ* — the terminal *α* is for *ṃ*) (*i*) the ordinary second aorist — *ἔσπον* (cp. *ἕπω*), *ἔκτανον* = *ἐκτη̣ον* (cp. *κτείνω* = *κτενι̯ω*), *ἔλιπον* (cp. *λείπω*), *ἔφυγον* (cp. *φεύγω*), *ἔλαβον* (cp. *λήψομαι*), the original accent appearing in infinitives and participles—*πιθεῖν*, *πιθών*; some aorists take irregularly ablaut I.—*ἔτεκον*, *ὤφελον* (*j*) the second or strong aorist passive—*ἐμίγην*, *ἐζύγην*, *ἐδράκην* (cp. *δέρκομαι*), *ἐτάκην* (cp. *τέτηκα*), but *ἐπλέκην*, a variant of *ἐπλάκην*, has conformed to *πλέκω*, and others to other strongs; (*k*) the dual and plural active, and all the middle of the perfect indicative as also the optative and participles active and middle (the singular active has, as we saw, ablaut II.)—*ἔϊκτον* *εἴκτην* (cp. *ἔοικα*), *ἐπέπιθμεν* (cp. *πέποιθα*), *ἴστον* *ἴδμεν* *ἰδυῖα* (cp. *οἶδα*), *τετλαίην* (cp. *τετληκα*), *ἐληλύθαμεν* (cp. *εἰλήλουθα*), *μέματον* *μέμαμεν* *μεμαώς* (cp. *μέμονα*), *ἕστατον* *ἕσταμεν* (cp. *ἕστηκα*). Conformation, however, has as a rule made the strong form prevail throughout the active. Ablaut III. prevails pretty generally in the middle—*μέμιγμαι*, *κέχυμαι*, *ἔστραμμαι*, *λέλασμαι* (cp. *λέληθα*). Verbs like *λέγω* necessarily insert an *ε* in *λγμ* of the theoretical ablaut III., e.g., *λέλεγμαι*. Ablaut III., in these cases, resembles ablaut I., and has given rise to analogical formations, where the correct ablaut might have appeared, e.g., πέπλεγμαι, which modelling after ἐπλάκην might have appeared as πέπλαγμαι.

In nominal formations, ablaut III. appears in (*a*) verbal adjectives in -τός and -τέος—στιπτός 'pressed' (cp. στείβω), ῥυτός (cp. ῥέ(F)ω), φατός (cp. φημί); λεκτός from λέγω and ἕκτος from ἔχω inserted an ε, and on these many analogical formations have been modelled, e.g., στρεπτός for στραπτος; forms δεικτέος, πευστός, &c., also occur; θετός and δοτός, &c., assume a vowel which graphically is the same as that of the strong grade forms; note also πηκτός, with the long vowel of πήγνῡμι: nouns in -τος and τη take ablaut II.—κοῖτος, βροντή (*b*) abstract nouns in *ti* (-σι) which originally had accent on suffix—πιστις, τάσις = τη̣σις (cp. τείνω = τενι̯ω), κάρσις = κρ̣σις 'a clipping' (cp. κείρω = κερι̯ω), φάτις (cp. φημί). In θέσις and δόσις, instead of the regular α, ε and ο appear, compare θετός and δοτός above; forms like λέξις, &c., develop an ε, and have been the starting-point for many similar formations (*c*) certain adjectives ending in -ρος, with accent on suffix—ἐρυθρός, γλυκερός, μακρός (cp. μήκιστος) (*d*) oxytone adjectives in -υς—βαθύς = βη̣θυς (cp. βένθος), γλυκύς (cp. ἀγλευκής 'sour'), but ὠκύς and ἡδύς with strong root.

Latin, as has been already remarked, is not at all sensitive to vowel-variation, and furnishes but a meagre supply of illustrations of ablaut. One or other form has prevailed, and levelling has robbed the vocalism of its variety.

It is however necessary to give a little more information about the Latin ablaut than that furnished by the stray examples already noted. Perhaps there is no example in Latin of a root with triple forms, unless that is to be found in *fīdō* (*feidō*): *foedus* (*foidus*): *fidēs* :: πείθω: πέποιθα:

πιστός. There is only one objection to be made to this proportion, and that is, that *es*-stems regularly take ablaut I., cp. τεῖχος, &c., as above.*

Examples of roots with two forms occur in :—(ablauts I. and II.) *sequor* (ἕπομαι) and *socius* (ὀπᾱ́ων 'attendant'), *tegō* (στέγω) and *toga*, *nex* (νέκυς) and *noceō*; (ablauts I. and III.) *ferō* (φέρω) and *fors* (**bhr̥tí**-), *dīcō* (*deicō*, δείκνῡμι) and *dĭcis* causā 'for form's sake,' *dūcō* (*deucō*) and *dux dŭcis*; (ablauts II. and III.) *moneō* and *mens* (Sk. *matís*, **mn̥tí**-).

Verbs like *legō* (ablaut I.) and *tondeō* (ablaut II.) dominate with their ablauts their respective word-groups.

In verbs like *scindō*, *jungō*, &c., and their cognates, ablaut III. appears.

In Gothic, original differences in root-vowels remain fenced off quite absolutely. From verbal forms, and verbal forms alone, we may get in Teutonic illustrations of most of the ablaut-series. The principal parts (inf., pret. sing., pret. plu., p.p.) of the verbs in Gothic, Anglo-Saxon, and Old High German, will thus furnish an excellent mnemonic for ablaut-vowels in their respective languages.

Ablaut I. appears in the inf., ablaut II. in pret. sing., ablaut III. in pret. plu. (except in *gēbum*, *gēafon* = *gǣfon*, *gābun* ; *bērum*, *bǣron*, *bārun*, where the outlying long vowel of the *e*-series appears) and p.p. In the *a*-series ablaut II. appears in pret. plu. as well as in pret. sing. A reference to the tables will establish the regularity of the vowel representation.

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* Victor Henry suggests that *foedus* may have changed its declension (orig. second) to avoid confusion with the adjective *foedus*. For *pondus*, the other example of an *es*-stem with ablaut II., a similar explanation is probable (cp. *pondo* in Livy, &c.).

Gothic verbs come first, then Anglo-Saxon, then Old High German, afterwards follow Greek forms with the same ablaut, for comparison.

1. *e*-series	giban	gaf	gēbum	gibans
	giefan	geaf	gēafon	giefen gifen
	geban	gab	gābun	gigeban
(N.H.G.	gēben	gāb	gāben	gegēben)
	πέτομαι	*ποτή* 'flight'		*ἐπτόμην*

Palatal g before e, æ, and ǣ gives in Anglo-Saxon gie (gi), gea, gēa.

2. *ei*-series	dreiban	dráib	dribum	dribans
	drīfan	drāf	drifon	drifen
	triban	treib	tribun	gitriban
(N.H.G.	treiben	trieb	trieben	getrieben
	λείπω	*λέλοιπα*	*ἔλιπον*	
3. *eu*-series	kiusan	káus	kusum	kusans
	cēosan	cēas	curon	coren
	kiosan	kōs	kurun	gikoran
(N.H.G.	kiesen	kōr	kōren	gekōren)
	ἐλεύσομαι	*εἰλήλουθα*	*ἤλυθον*	

The io in O.H.G. kiosan is due to the following a.

4. *er*-series	baíran	bar	bērum	baúrans
	beran	bær	bǣron	boren
	beran	bar	bārun	giboran
(N.H.G.	gebären(-)	gebār	gebāren	gebōren)
Luther	gebēren			
	δέρω	*δορά* 'hide'		*δαρτός* or *δρατός*
5. *en*-series	driggkan	draggk	druggkum	druggkans
	drincan	dranc	druncon	druncen
	trinkan	trank	trunkun	gitrunkan
(N.H.G.	trinken	trank	tranken	getrunken)
	τείνω = τενι̯ω	*τόνος*	*τέταμαι = τετη̥μαι*	
6. *a*-series	dragan	drōg	drōgum	dragans
	dragan	drōg	drōgon	dragen
	tragan	truog	truogun	gitragan
(N.H.G.	trāgen	trūg	trūgen	getrāgen)
	ἄγω		*στρατηγός*	*ἀγός* 'leader.'

There is thus an extensive use of ablaut for form-building and form-differentiation in the Teutonic verbal system. Sweet says that this big manipulation of vowels in verbal formation may be due in some measure to the influence exerted on Teutonic by the Ural-Altaic languages (Finnish, Magyar, Turkish, Mongol, &c.) spoken in close proximity for many centuries, which are dominated by a law of vocalic harmony that, to speak generally, requires that one class of vowels (these are divided into strong, weak, and neutral) should obtain in the various syllables of a word. At any rate the adaptation of vowel-differences to the expression of tense-distinctions, with which, being due to accentual action, these differences had originally nothing to do, owes much to a long striving after symmetry.

Towards the close of the Middle English period the ablaut of the pret. plu. was accommodated to that of the pret. sing., a state of things which is reflected in Modern English—*drink*, *I drank* and *we drank*, *drunk.*

In the southern dialects the vowels of the preterite and participle are identical, the deeper vowel having always prevailed, so that now there are but two ablaut forms in the somewhat insignificant number of verbs that still, with an added weak ending, exhibit vowel change.

In the New High German forms it will be noticed that the tendency is to assimilate the vowels of the pret. sing. and pret. plu. in quality and in quantity,—N.H.G. *gāb gāben* for O.H.G. *gab gābun*, &c.

For O.H.G. *ī*, N.H.G. has the diphthong *ei*—N.H.G. *treiben* for *trīban.* Compare the representation of O.H.G. *ū* by N.H.G. *au*—N.H.G. *haus* for O.H.G. *hūs.*

In the pret. sing. of *trīban*, *ei* has been lost, and the vowel of the plural and the past participle assumed. This has become a long *i* (written *ie*) by the law which ordains that a short vowel becomes long in New High German when it occurs in an open syllable, i.e., when followed by one consonant and a vowel.

For O.H.G. *truog*, N.H.G. has *trūg*. For *uo* simplified into *ū*, compare the simplification of *ie* into *ī* (written *ie*).

Of the ablaut that once had a definite place in declension there are, save in Sanskrit, scant remains. The condition of things that the Aṅga, Pada, and Bha bases disclose in Sanskrit declension must have had its analogue elsewhere. Conformation however has effaced the plurality of stems that once figured in declension. One language has generalised one form, another, another, e.g., in the word for *foot*, Greek has generalised the *o*, Latin the *e*, and Teut. the *ō*—Gk. πόδα (Dor. πώς), but cp. πέζα, L. *pedem*, Goth. *fōtus*, A.S. *fōt*, O.H.G. *fuoȥ* (G. *fuss*).

The Indo-European declension is said to have been this :—

N.	pṓds	D.	pdái̯ (bdái̯)
Acc.	pṓdṃ or pódṃ	G.	pdós (bdós)
L.	pédi		

Gk. ἔπιβδαι 'day after the feast' is usually given as an example of the weakest stem.

In words like Gk. λευκός, gen. λευκοῦ, a curious result has been reached. The strong ablaut of the nominative argues for an original accent on the stem syllable, but the genitive which retain its original accent must have had originally weak ablaut. A sort of phonic *contaminatio* has been the result with the vocalisation of the nominative and the accentuation of the genitive.

Sundry remarks have several times been made on the influence of accent on ablaut, and in this chapter it will be quite fitting to set forth some facts about accent in Indo-European and the languages that have sprung from it.

First, then, as regards place, the Indo-European accent—naturally a word-accent, and confined, in the same circumstances, to the syllable chosen—was free, and could rest on any syllable, whatever the quantity. That this is so, can be proved from the accented Sanskrit of the Vedas, from a proper interpretation of the phenoma of Greek accentuation, and from the effects of accentual action established by Verner's Law.

The correct historical account of Greek accentuation is not that which assumes recession as a first principle and explains divergences as exceptions, but that larger view which discerns that recession proper is an intrusion upon a state of things in which each syllable was mutually eligible for accentuation.

Verner's Law (see Chap. on Grimm's Law) revealed in Teutonic the workings of another mode of accentuation than the historical root-accentuation.

The corroboration that accentual facts in Greek and Teutonic find in Vedic Sanskrit goes to prove the primitiveness of the free accent in Indo-European. What principle regulated the session of the accent, now on one syllable and now on another in words and word-groups, is not, and can in the nature of things hardly ever be known.

Among the Indo-European languages Sanskrit as a rule retains the original position of this free accent. Very often, in spite of many divergences, a free accent that obtains in Lithuanian furnishes results that corroborate those furnished by the Sanskrit. Strange to say, Lettish, a language which can be converted into Lithuanian, if certain laws of letter change are carried out, has dropped free accentuation and adopted initial. This but illustrates the truth, of which there are many examples, that accentual systems are most mutable.

Russian still preserves specimens of the original free accent. Bohemian, like Lettish, accents the first syllable. Polish has generalised the penult accent. Cymric (Welsh) has done the same. Keltic (Irish) shows an initial accent. Teutonic has developed a radical, which, except in compound verbs is practically an initial accent, due doubtless to the generalisation of those accent-types that already on the old system had the accent on the root.

It is plain from what has been said, that languages starting with a similar accentual system may depart from this, and each, in different areas, and following out its own bent, reach an identical result.

Greek of course retains many instances of accents in the original position. In fact, resistance to recession is fairly reliable presumptive evidence of primitive accentuation. The position proper to recession may evidently also be that which was occupied by the free accent formerly in vogue.

Modern Greek has a stress accent on the same syllable on which historic Greek had a pitch (*plus* stress ?) accent. Stress then has taken the place of pitch (or, to follow Sweet, 'the stress has been kept while the intonation has been set free'). But it would appear that the musical accent may still be heard in some parts of Greece. J. T. Bent in Macmillan's Magazine for August 1883 speaks of a Chian pronunciation of ἄνθρωπος, in which musical cadence is present and the quantity of the ω preserved.

Latin is dominated by a new law of accentuation. Barytonesis has prevailed. The law (excepting monosyllables and certain particles) is simply this :—If the penult is long, it carries the accent, if short, the antepenult carries it. Spellings, however, like *cōnficiō* (through *cṓnfaciō*), and *cōgnitus* (through *cṓgnōtus*), argue the previous existence of another than the historic mode of accentuation.

So much for the position of the Indo-European accent—what about its nature? Was it one of pitch or of stress, was it musical or expiratory?

In the Old Italic dialects, in Keltic, in Teutonic, and Lithuanian, we have to deal with expiratory accent; in Sanskrit and Old Greek, the accent is said to have been musical.

That the accent in Greek was musical seems to follow from the very names given to the accents, from the fact that in Greek poetry the ictus is independent of the accent, from the fact that, as a rule, the syllables that follow the accent are not subject to weathering, not to mention the committing language made use of by the ancients in discussing accent.

Brugmann says that Sanskrit and Greek could hardly, if the accent had been expiratory, have kept so well the old inherited condition of the sonants.

Since, according to the same authority, Sanskrit and Greek, as separate languages, hardly ever require the assumption of expiratory accent to explain phonetic changes, it follows that contrasts like *πέτομαι πτέσθαι*, which, as has been said, do seem to require more than a lowering of tone to account for the loss of the vowel must be referred to the pre-separation period. This postulates for said period the prevalence of expiratory accent. Brugmann comes to the conclusion that the Indo-European accent was at first mainly expiratory, but that towards the close of the joint period it had become mainly musical, a stage which is represented in Sanskrit and Greek. Verner was of opinion that the original accent was musical (chromatisch).

The following quotation exhibits Sweet's opinion on the matter:—" Intonation is not necessarily associated with stress, but there is a strong natural connection between them, and the history of the Arian (Sweet prefers this to Aryan) languages shows clearly that in them high tone was accompanied with strong stress, for the weakening and dropping of vowels in unemphatic syllables, which is carried to such an extent in parent Arian, cannot be explained as due to mere lowering of tone."

Some account will now be given of the origin of the recessive accent in Greek, as expounded in Bloomfield's masterly articles in the American Journal of Philology (Vol. IV., p. 21; Vol. IX., p. 1.).

Recession is seen at its height in the finite verb. It has effected a lodgment there that argues verbal quality and verbal origin. The verb is the *nidus* for diffusion, and in the verb, recession is the mode in which a fact in sentence-accentuation finds expression. To use Bloomfield's words, 'recession is a substitute for enclisis.' The Indo-European finite verb, in principal clauses, functioned as an enclitic. This is reflected in Sanskrit, where the verb in principal clauses (except when first word of the clause, or in antithetical construction, &c.), is enclitic, and in subordinate clauses, orthotone.

In Greek, the enclisis must have affected the finite verb as a whole. Its substitute, recession, works under certain restrictions. Only two syllables are left unaccented, and not more than three moras (the mora is the unit of quantity). The word must end in a trochee, before three moras can be left without an accent. In accentuations like *κήπου*, it is the second of the two moras constituting the long vowel that bears the accent.

The same limitations obtain in ordinary enclisis—*ἄνθρωπός τις*, *παῖδές τινες*, *λόγοι τινές*. The similarity of the conditions that fetter ordinary enclisis and recession is most significant and suggestive.

It ought to follow that, in the absence of the aforesaid restrictions, the finite verb in Greek is still enclitic. And this is so. The verbs *εἰμί* and *φημί* are enclitic, and they are the only verbs that throughout a whole tense present conditions favourable for enclisis. Take *εἰμί* (*εἶ*), *ἐστί*, *ἐστόν*, *ἐστόν*, *ἐσμέν*, *ἐστέ*, *εἰσί*, and *φημί* (*φής*), *φησί*, *φατόν*, *φατόν*, *φαμέν*, *φατέ*, *φασί*. In not one form have we to apply the rule. These forms exhibit and prove the original enclisis of the finite verb.

As to the non-enclitic character of *εἶ* and *φής*, the orthotonesis can be accounted for. *εἶ*, if it be not considered an Attic late form, and subsequent to the establishment of enclisis, is a reduction of *ἐσι*, Sk. *ási* (the reduction of the *s* of the root, and the *s* of the suffix (cp. *ἔπεσι* for *ἔπεσσι*) took place in the primitive period), and may be considered to have taken after the numerous circumflexed contractions that were in process of formation during its reduction.

φής, as is natural with the person addressed in a verb of saying, occurs only in subordinate clauses, or in co-ordinate clauses that are interrogative, or point an antithesis.

φής, then, escaped the enclisis that beset the other persons of the tense, owing to its natural usage in subordinate or antithetical clauses, where enclisis did not have a footing.

Enclitic *ἐστι* also appears as the non-enclitic *ἔστι* at the beginning of a clause, or when preceded by a word too weak to receive a receding accent.

Exemption from the enclisis of principal clauses accounts too for the retention of the etymological accent by infinitives and participles, and that even when compounded.

Some other facts in Greek accentuation that are doubtless due to the play of sentence-accent may be mentioned here, such as—(*a*) the appearance of the acute as a grave, when followed by a full word; (*b*) the accentuation that differentiates interrogatives and indefinites, e.g., *τίς* and *τις*; (*c*) the existence of proclisis, which naturally is lifted in emphatic positions, *οὐ* freeing itself at the end of a sentence, &c., *ὡς* and *ἐξ*, when occurring after the conjoined word—as to *ὁ* and *ἡ* (Sk. *sâ* and *sā́*), these were at least helped towards proclisis by a desire to differentiate them from the relatives *ὅ* and *ἥ*, *οἱ* and *αἱ* following their analogy; (*d*) the behaviour of dissyllabic prepositions in and out of anastrophe; of their positions, that in which the so-called anastrophe occurs is the more ancient, and its accent the more original, the oxytone accent of the prepositions in their later position being really a substitute for the proclisis that is seen in monosyllables like *ἐξ* (proclisis admits of tonelessness only in monosyllables): that the paroxytone, speaking generally, was the original accent of dissyllabic prepositions, is proved by the fact that the Sk. cognates are of this accent—ἐπί, περί, ὑπό (Sk. *ápi*, *péri*, *úpa*), and by the fact that, when used as adverbs, the prepositions bear the paroxytone accent.

Recession established in the verb passed to the noun. The procedure was by analogy. Certain nominal types that in volume of sound were numerically and quantitatively the equivalent of the frequent work-a-day verbal types adopted in certain sympathetic conditions their intonation also.

These fresh creations would reinforce the nominal types that already on the old system had the accentuation that recession would have given. The accentual types thus established among nouns became a force in determining the accent of differently accented nouns that might be associated with them. The types that accorded with the new law were widely generalised.

Common words would become the nucleus of groups that affected the new, or, it may be, retained the old accentuation.

This is Bloomfield's account of recession. It is preferable to Wheeler's. The latter claims that recession was not verbal in its origin, but due to the action of a phonetic law affecting the whole language, and operating by the development of a secondary accent (afterwards in part the principal accent) that rested on the third mora from the end, or, in polysyllables of trochaic ending, on the fourth mora.

It ought to be mentioned that Brugmann has adopted Wheeler's theory in his account of Greek accent.

Before closing this chapter it may not be out of place to say that quantity has a certain, though not necessary relation to accent, and that the quality of a long syllable is probably not so even nor so pure as that of its corresponding short.

The only systematic attempt known to me to elucidate the relation between the *e*- and *o*-grades is that made by the late Pietro Merlo in an essay entitled 'Ragione del permanere dell' A e del suo mutarsi in E(O) sin dall' età protoariana.' In this, while distinctly admitting the existence of *e* and *o* in the latter portion of the joint period, he inclines to the belief that, in the earlier portion, these vowels were both still latent in an unstable *a* with no definite point of articulation.

It was, of course, in full-grown words that the conditions for vowel-play in general were first definitely presented. The original dissyllabic root-forms present in words were afterwards so blended with the suffixes as to look like monosyllabic roots.

Under the action of the acute accent, helped by the frequent presence of a terminal -*i* (cp. Gk. *μι*, *σι*, *τι*), these unstable *a*'s passed in verbal forms to *e*; on an alteration of the cadence of the accent there followed in a labial neighbourhood a colouring into *o*. This labial neighbourhood must have often been present in nominal forms owing to the frequent occurrence in these of an -*m*, e.g., in the accusative and in neuter nouns.

Naturally it was in phrases rather than in words that the swing of a musical accent helped to introduce vowel-colouring. We may suppose that a word had two lives, its sentence-life, and its individual life. So far as the latter is concerned, we have to remember that accentual change involves vowel-loss rather than vowel-change to the syllable concerned.

Perhaps the differentiation exhibited in vowel-colouring was particularly used to distinguish verbal from nominal forms. It is a fact that of the two ablauts of the strong grade the *e*-ablaut is the more common in verbal forms. There are not so many verbal forms with the *o*-ablaut—*δέδορκα*, *πέπομφα*, &c., and *φορέω*, &c. *φορέω* is a verb formed from a nominal base, and perhaps the perfects may be explained from the side of the noun.

The coincidence of this difference in vowel with a difference in function would give to vowel-colouring an established position in word-formation. Afterwards, when the existence of full verbal and nominal systems furnished other characteristics for the two classes, and supplied numerous bonds of attachment between members of the same class, there did not exist the same impulse to utilise vowel-colouring, and verbal formations with the *o*-, and nominal formations with the *e*-ablaut became things of common occurrence.

It is to be supposed, too, that the action of analogy often helped to obliterate functional distinctions.

Merlo's theory of the origin of *e* forces him to give some explanation of the *a*'s that have remained.

The final *i* that helped to bring in *e* was characteristic of active verbs, was a mark of transitiveness. Intransitive verbs were likely to retain the *a*, unaffected as it was by the attractive force of an *i* (compare the diphthongs -*μαι*, -*σαι*, -*ται*, in the Greek middle).

Merlo gives a list of words where the *a* (real *a* is meant, not the auxiliary *a* of linguals and nasals) has persisted alongside of the *e* of cognate words. It is necessary to affiliate the former to intransitive verbal forms. It must be confessed, however, that many of the relationships set down are far-fetched and some of them improbable. As specimens of his examples take *patēre*, *petere*; *parcus*, -*pescere* (*percsere*); *angor*, *ἔγχελυς*.

Verbs with the vowel *a* that are now palpably transitive, such as ἄγω, may be supposed to have put on transitiveness at a comparatively late date (*agere* has distinct intransitive uses), or to have had their vowel conserved by the influence of cognate intransitives.

It is undoubtedly true that the *e* of the new and vigorous formation would get extended beyond its sphere. It is also true that neuter verbs may in virtue of their meaning pass naturally into transitive verbs.

CHAPTER VII.

GRIMM'S LAW.

It will be well to gather together into one chapter the facts that relate to Grimm's Law, and to add needful explanations and comments. It will also be expedient to use in this chapter nomenclature as simple and as accurate as possible.

The bare facts relating to this Law have already been fully set down in Chap. IV.

Perhaps the first fact in the domain of law that one hears of in connection with linguistics, is the fact of the existence of Grimm's Law. Many a guess, perhaps crude, perhaps plausible, has been elbowed out of court by its means. Undoubtedly its application and the test of truth it furnished, have contributed most powerfully towards changing what was previously a mere science of guessing into a rational science, not the least part of the reason and precision of which has been got from its pioneer in the pursuit of truth—the science of phonetics, the science that admits of no exceptions to its laws.

Grimm's Law is one of the weightiest facts in consonantal phonetics. And provided that it is recognised that other laws may traverse the field of its operations; provided, especially, that it is remembered that the law is an induction based on many facts, but not on all, and that trouble has been taken to learn how that residue of facts has been explained and grouped; provided too, that it is not forgotten that the second change was never fully carried out, one must subserviently respect this, as all other phonetic laws.

One must remember that the letters of the formulæ do not have the same value in each of the terms of comparison, that similar changes took place over less areas and with other terms of comparison, and that the scope of the law was extended for the sake of theoretical completeness. To take for granted that hard, soft, and aspirate, mean the same in each group, to write as if sounds were on a dead level of sameness in the first group, to speak then of the inevitableness of the interchange of these fixed and unchangeable sounds, to add to this, expressions such as 'conscious replacement,' is to give the law a superimposed, predestined, and pre-ordained character, or, as an alternative, to make the speakers of the languages concerned foresee their own development, and work it out consciously and of set purpose.

With regard to that primitive state of the Indo-European peoples in which they used the same language, it must not be supposed that the original tribes dwelt as next-door neighbours within circumscribed limits, for they were separated by long distances, though still in touch with each other. They observed various attitudes toward the sound-norms, had certainly much in common, but were also predisposed to change in different degrees and along different lines. Each family of languages, each system of sounds, had its own idiosyncrasies.

Perhaps the relation of the sounds of the languages used by these tribes to those of an earlier parent-speech, more or less ideal and the result of analysis, may be fitly compared in some points to the relation between dialectic sounds and the sounds of the standard speech, though here the check on change ought to be greater, provided aid is to be got from a rational and consistent representation of the sounds in writing.

What then is Grimm's Law? That will better be understood at the end of the chapter; meantime, it may be defined, by anticipation, as the expression of relations, neither isolated in their occurrence, nor extraordinary in themselves, that obtain between the consonants of Indo-European, General Teutonic, and High German. These relations are exhibited in the following table:—

The examples of the law are taken in G.T. from Anglo-Saxon unless when Goth. is prefixed.

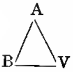
	I.E.			G.T.				H.G.
	B(reath)			A(spirate)				V(oice)
T				TH	d	High German		D
P				F	b		F	
K				H	g		·H	
	A(spirate)				V(oice)			B(reath)
D'	θ	Latin.	B, F, D	D		High German		T
B'	Φ		F, H, B	B			B	p
G'	X		F, H, G	G			G	k
	V(oice)				B(reath)			A(spirate)
D				T		High German		TS, S
B				P				PF, F
G				K			K	CH

EXAMPLES.

I.E.			G.T.			H.G.
B(reath)			A(spirate)			V(oice)
		*t*egō	*ð*ȩccan	High German		*d*ecken
		*p*ateō	*f*æðm		*f*aden	
		*c*utis	*h*ȳd		*h*aut	
A(spirate)			V(oice)			B(reath)
bhar*dh*-)		bar*b*a	bear*d*			bar*t*
(*dh*ur- dhu̯r̥-)	*θύρᾱ*	*f*oris	*d*uru			O.H.G. *t*uri (thür)
ru*dh*-) vowel long and short		ru*d*is	rō*d*			O.H.G. ruo*t*a (ruthe)
(*bh*ū- bheu̯-)	*φῡ́ω*	*f*uī	*b*ēon	High German	*b*in	
(*bh*erb- bhorb-)	*φορβή*	*h*erba				
(*bh*at-)		*b*atuere	*b*eadu			
(*gh*ᵘ̯ol- ghᵘ̯el-)	*χόλος*	*f*el	*g*ealla		*g*alle	
(*gh*azdhā)		*h*asta	Goth. *g*azds		*g*erte	
(*gh*eu̯)	*χέω*	*g*utta	*g*ēotan		*g*iessen	
V(oice)			B(reath)			A(spirate)
		*d*ūcere	*t*ēohan	High German		*z*iehen
Sk. sa*b*ar			sæ*p*			sa*f*t
		*g*enu	*c*nēo		*k*nie	O.H.G.*ch*niu

Not all the changes are recorded here, but the most noticeable for the understanding of the law. I.E. = Indo-European, for which Indo-Classical might serve; G.T. = General Teutonic, a term including H.G. = High German, which suffered the first change along with the other languages, sometimes went no further, and sometimes exhibited both the earlier and later changes. In H.G., a capital letter indicates the usual, a small letter, the occasional change.

Low German is a name sometimes given to languages other than High German. Its appropriateness, when one considers the date of the facts under consideration, is questionable. German writers on Teutonic philology do not include Anglo-Saxon among Low German dialects.

Voice and breath are used as decidedly more truthful terms than soft and hard, sonant and surd, tenuis and media. Aspirate is used for convenience. A vowel as initial letter gives, by using as contractions the first letter of the above terms, convenient mnemonics B.A.V., A.V.B., V.B.A. These may be simply remembered. Thus:—Let  be an equilateral triangle, and name it in succession from left to right either B.A.V., A.V.B., or V.B.A.

But besides being in this way convenient, aspirate is a fit enough label to describe sounds that differ in Indo-European taken by itself, and have a value in General Teutonic different from that which they have in Indo-European.

It would appear that it is wrong to represent the Sanskrit aspirates by DH, BH, GH. Native Indian scholars ridicule the representation, and Mr. Ellis says that in listening to the pronunciation of two native scholars, he could detect only a glottal buzz after the stop. Exact writers now use D', B', G', for the Sanskrit aspirates.

The Latin aspirates are continuants. As to the Greek aspirates, the Romans evidently thought them breath stops followed by something, for they represented them by *ch*, *th*, *ph*.

High German TS (= *z*, S = *ss*) and PF (*pf*, *f*) are not aspirates at all, but affricates, double sounds opposed to spirants. CH is a continuant. For further facts about High German consult Chap. IV.

The *d*, *b*, *g* written within the V in G.T. B.A.V., are produced by the operation of Verner's Law, of which more hereafter.

It will now, after having briefly stated the law, and tabulated the salient and representative changes, with examples, be proper to speak of some of the changes registered therein.

To begin with, the changes exemplified are to be seen elsewhere, in other groupings, even within the limits of the Indo-Classical group. In one language—Armenian—all the changes are met with. Proof of a wider extension for the facts recorded in the law must contribute much towards an explanation of these. If certain phenomena have the attribute of universality, or even of frequent recurrence, their explanation is within measurable distance, or rather, no special explanation is needed, for mere difference of degree may be easily accounted for.

The change of **breath into aspirate** is found in Iranian, where *p* became *f* before consonants, in Armenian, where *t* became *t*‘ before vowels and medially, in Umbrian, where primitive Italian *pt* became *ft*. To be noticed also are *rectē* and Umbriae *rehte*. ἵστημι and Sk. *sthā*, πάτος and Sk. *path*, δέκομαι and δέχομαι, τρέπω and τέτροφα, λίπα and ἀλείφω (see, however, Moulton's Law, further on).

The change from **aspirate to voice** is to be met with in Armenian, where *dh* became *d*, and in Iranian, Keltic, and Balto-Slavonic, where the voiced aspirates became voiced stops.

As examples of **voice into breath**, we have in Armenian, the change of *d* and *g* into *t* and *k*, in the Indo-Classical group, the change of Sk. *bh* into Gk. φ and Latin *f*, both breaths. The Latin *f* afterwards became *b* in certain surroundings, thus illustrating aspirate (spirant) into voiced stop. We have also to note such alternations as σκαπάνη, O.L. *scapres*, *scabō*. Compare also, confining ourselves to initial letters, Italian *gastigare* and *gonfiare* with *castīgāre* and *cōnflāre*, Spanish *gritar* and *greda* with *quirītāre* and *crētam*.

The changes, then, are not isolated, and many more examples might be given; but, in their case, juxtaposition and consequent assimilation, or some law of euphony, would more manifestly account for the result. It is impossible to explain away these examples by their setting: they are too general to be explained by any local cause. And in this connexion it is well to remember that Grimm's Law in some of its features may register the extended scope of small beginnings, more or less originated by local causes. At anyrate, Brugmann himself begins his explanation of *p* into *f*, &c., by assigning a local cause to start with.

It results, then, from the above remarks, that other groupings would furnish more or less of the phenomena of Grimm's Law, that, in the Indo-Classical group, and within the area of Armenian alone, we have all the features of the law represented.

The facts, then, of the change are to be seen elsewhere. It will be well now to consider the nature of the changes.

Are they unique in themselves, or is it their spread and the regularity of their occurrence that is most noticeable?

The prevalence of the change from **breath to aspirate**, or breath to spirant, is perhaps a sufficient voucher for its naturalness, but the change in itself is quite comprehensible. Brugmann, in his account of the change of *p* and *k* into spirants, says that, to begin with, *p* and *k*, when beside *t* and *s*, changed into spirants, and finally everywhere else. This is to state the doctrine empirically.

Theoretically, one ought to say that the movements of the organs of speech, called into being by the nerves, to produce the sounds of *p* and *k*, owing to the other sounds in their neighbourhood, gradually underwent deflection in the direction of the movement required to produce the spirants. The sensations that accompany these movements similarly underwent change, and also helped to reproduce in a succeeding movement an alteration that had taken place in a preceding. The stability acquired by these sensations, themselves one of the prime agents in producing change, induced in all other cases, with the aid of the sound-picture they had engraven on the memory, the production of said spirants from said breaths, although the juxtaposition that initiated the change did not in these cases exist.

However doctrinaire this statement may read, it really is necessary in these matters to state precisely what happened, and how it happened. The cause of the change is local, and an inclination to follow established precedent has brought about the rest. The change did not—no change does—take place *per saltum*. There were intermediate halts. In this connexion, Mr. Sweet points out, in his

History of English Sounds, that spirancy must have been reached through intermediate aspiration, that *t* must have become þ through *th*, otherwise that *d* would have become ð.

With regard to the change from **aspirate to voice** if we take D', B', G', as correct representations of the so-called aspirates, and remember that Mr. Ellis discovered the aspiration to be a mere glottal buzz, what great difficulty does the deaspiration present. Place D', B', G', beside D, B, G, their Teutonic transmutations, and the change does not seem at all difficult, not so difficult, to follow Dr. Murray, as the change into the Greek breath aspirates. The buzz is simply dropped. If the old representation of the aspirates be insisted on, then between aspirate and voiced stop there must have intervened the voiced spirant. And one consideration seems to require the intervention. Would not otherwise the D that had been got from DH (D'), have shared the fate of original D, if aspirate into voice was the second change and prior to voice into breath.

The last change, that from **voice to breath**, has sorely puzzled many. It is said that the change is not along the line of ease in articulation, that unvoicing is a change from an easy to a harder sound. The masters in phonetic science seem to find no difficulty here. Sweet says that the change took place through whisper, and was more or less direct. It is well to remember that unvoicing did not here happen for the first time, but that the change that caused the voiced aspirates of Sanskrit to appear as breath aspirates in Greek, and breath spirants in Latin, is a conspicuous example of the same process.

It is well known, too, how prone Celts and Germans are to unvoice voiced sounds. This suggested to Professor

March the hypothesis mentioned in his Anglo-Saxon Grammar, viz., that the invading Teutons were gradually influenced by the Celtic pronunciation of their own voiced sounds.

Assuming that the change is counter to the principle of ease in articulation, though the change—say from *d* the point-stop-voiced to *t* the point-stop-voiceless—does not seem a hard one, let us remember (we have it on Paul's authority) that ease in articulation is quite a secondary and subordinate cause of change. Not that we are to dispense with euphony altogether, but let us not forget that euphony often offers an explanation that ignores the fact of the intermediate existence of numerous minute deflections. It is not the last link in a chain that enables a junction to be effected between two different points, but the whole series including the last.

This would seem to be the place to refer to a suggestion thrown out by Mr. Conway in a recent number of the *American Journal of Philology*. We referred above to Mr. Sweet's statement that voice *d* became breath *t* through whisper. Well, certain facts in Italic orthography, such as the representation both of the voice and the breath by C up to the end of the fourth century B.C., the transliteration of Φρύγες and Πύρρος by *Burrus* and *Bruges*, the comparison of κυβερνᾶν and *gubernāre*, have led Mr. Conway to the conclusion that the mediæ and tenues were originally separated not as voice from breath, but as whisper from breath. Of course these mediæ were afterwards voiced. This leads him to infer that the parent speech mediæ were also whispered. Whisper is that intermediate state between breath and voice in which the vocal chords are approximated, but not vibrated. We thus get Mr. Sweet's intermediary to start with.

A few remarks now on the order of the changes present in Grimm's Law will form a necessary sequel to what has been said above of the character, of the scope, and of the production, of the changes. These will simply be an echo of what Brugmann says in his Grundriss. It is not to be supposed that processes referred to below, suddenly came into operation, for they doubtless were present in some shape and to some degree in the parent speech.

To begin with, then, the tenues became spirants. The change first took place in the case of *p* and *k* before *t* and *s*, and was then extended. Next, or perhaps first, the tenues aspiratæ and the mediæ aspiratæ passed, the first into the breath spirants, the second into the voice spirants. The tenues and the tenues aspiratæ thus fell together. This fact enables us to cognate Gothic *haban* with *habeō*, referring both to common root **khabh-**. The voice spirants were afterwards largely stopped into mediæ, a process probably assisted by the fact that the voiced spirants after nasals, and *r* and *l*, became mediæ. Under the action of Verner's Law (to be referred to presently), the breath spirants that came from the tenues and the tenues aspiratæ, in certain surroundings became voiced spirants, afterwards largely mediæ. So that a media may be traced back to a tenuis, a tenuis aspirata, or a media aspirata. Finally, the mediæ passed into tenues. Before leaving this change, the following words of Mr. Sweet may fitly be appended:—'A change such as that of *d* into *t* may begin at the end of a breath-group, and be then extended to the end of words within a breath-group, as in German; and finally to all the *d*'s in the language, as when every Aryan *d* became *t* in Germanic.' Let us remember in connection with the above remarks that processes got at by analysis perhaps did not function in actual development in the order given by analysis.

Sweet's order of change is different from Brugmann's. This is what he says:—'As regards the order of the changes, it is clear that *dh* could not have become *d*, till Ar. *d* had become *t*, and that this latter change could not have taken place till Ar. *t* itself had been modified—otherwise some two of the three must have run together. The changes must, therefore, have begun with that of *t* into þ through *th*, *d* then taking the place of Ar. *t*, and, lastly, *dh* taking that of Ar. *d*.'

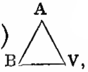
A few facts about isolated changes will complete the account of the first change. *st*, *sp*, *sk* do not suffer change; *zd* passed into *st*—cp. *nest* and L. *nīdus* (**nizdo-**); *zgh* and *zdh* into *zg* and *zd*—cp. A.S. *mearg* and Sk. *majjá* 'marrow,' Goth. *mizdō*, A.S. *meord*, and Gk. *μισθός*, Sk. *mīdhá* 'reward'; *tt* (*tth*) into *ss*—cp. A.S. *gewiss* and Gk. *ἰστός* (*u̯ittó-*), sometimes *st*, by analogical and other influences—cp. A.S. *wāst*, Goth. *wáist*, Teut. *waiss*, and Gk. *οἶσθα*, Sk. *vḗttha* (the *t* is due to the analogy of Teutonic *maht* 'thou mightest,' &c.).

Before passing on to the second change, it is worth our while to consider what testimony the runes may have to offer about the first change. Taylor tells us in his 'Alphabet' that the *d* rune corresponds to the Gk. *thēta*, the *g* rune, to the Gk. *chi*, and the *k* rune, probably to the Thracian *gamma.* This would seem to imply that, at the end of the runic period, the lautverschiebung was *en train de se faire.* It is now very generally believed that the runes were got directly or indirectly from Greek colonists on the Euxine, but as to the date of adoption differences exist. Taylor speaks of the sixth century B.C., while Sweet says that the most probable date for their adoption is the third century B.C. The first change, according to Sweet, took place some centuries before our era (but surely this requires a remoter date for the adoption of the runes than 300 B.C.); the second did not come into operation until at least five centuries after it.

The first remark to be made in connection with the **H.G. changes** is that they are comparatively recent. Words borrowed from the Latin, in common possession among the Teutons, suffered the letter-change, such as *cannabis,* O.H.G. *hanaf* 'hemp,' *strata,* O.H.G. *straȥa.* This proves that the change did not take place till connection with the living Latin of the Roman Empire had been cut off. Dr. Murray refers the second shifting to changes effected on German when adopted by a Slavonic race, Scherer, to Romance influence. But may it not have been a recrudescence, a partial repetition, very partial, it is true, of the first shifting, due to the phonic activity, possibly, of that section of the Teutons, the sound-development of which had dominated the race. If the changes of the first shifting are natural and omnipresent, why not allow their partial repetition. Voice to breath from I.E. to G.T. resembles voice to breath from G.T. to H.G. In breath to aspirate, it is true, the H.G. aspirate that resulted from G.T. breath is quite different from the G.T. aspirate that resulted from

I.E. breath — the H.G. aspirates being surd affricates, or spirants, the G.T. only spirants.

In aspirate to voice from G.T. to H.G. the change, as will be seen by referring to the table, took place only in the case of dentals. The evidence for the law in fact reposes on the behaviour of the dentals. The mnemonic B.A.V. is evidenced only by dentals; A.V.B., best by dentals, occasionally by labials and gutturals; V.B.A. in the dental, as in the other positions, has only the evidence of spirants or surd affricates. Note, too, in this formula, that *ch* is archaic, and that there is no quite satisfactory example of the through representation of labials.

It seems almost needless to embarrass ourselves with a triliteral formula, and for practical purposes it will be enough to imagine an equilateral triangle B(reath) A(spirate) V(oice)  and to remember that the lines of change are from left to right, along BA, AV, and VB, thus including German in Teutonic, noting specially the second shift of the dentals. The very partial character of the H.G. change is thus quite evident, indeed, the changes were only fulfilled with approximate completeness in Alemannic and Bavarian, sporadically elsewhere. The one change common to all the German dialects is that of *th* into *d.* Of collocations that resist the second shift we have *st*, *sp*, *sk.* To these add *tr*, *ht*, and *ft.*

It will now be possible to sum up the evidence on Grimm's Law. We have seen that the changes are not extravagant, that they have some claims to universality, that they did not spring into existence with gourd-like rapidity, that they had humble beginnings, being probably to some extent the extension of local effects. They existed too in embryo at the date of the parent speech, that is to say, there was not identity of spoken speech then, but those tribes whose languages exhibit the phenomena that Grimm's Law connotes, displayed then in their speech the beginnings of these idiosyncrasies. For does not Paul say 'We must therefore regard, as a rule, the independent languages which have developed out of a common original language as continuations of the dialects of the original language.'

This statement seems to involve the ideality and artificialness of a homogeneous parent speech, and there are many reasons for doubting the existence of such a parent speech. It is then much more correct to say that there was not homogeneity to begin with, than to say, as some do, that the sounds of a putative parent speech were nondescript in character, and potentially able to become all they ever afterwards became. What sort of reality could such mongrel sounds ever have possessed.

The changes, too, took place unconsciously. Let us remember that they were only accomplished after considerable intervals, and by means of numerous intermediaries, some of these doubtless long-lived. To postulate the series —sound to be changed, last intermediary, final result—and to assume along with this a clear consciousness of the process, does not seem scientific. To import into Grimm's Law as an explanatory factor a volitional energy that makes for or against change, is to endow individuals with a prophetic consciousness of the phenomena in question, and a determination to bring them to pass. Two quotations from Paul will enforce this view. 'There is no such thing as a conscious effort made to prevent a sound-change.' And 'We must cling to the fundamental maxim that sounds are produced and taken cognisance of without any clear consciousness. This statement contradicts all such explanatory theories as presuppose in the minds of individuals an idea of the sound-system of a language, under which head come several hypotheses as to the German sound-shifting process.'

In the eleventh volume of Kuhn's Zeitschrift, Lottner tabulated **two main classes of exceptions** to the first lautverschiebung. In the first class were set together cognates like Sk. *duhitár-* Goth. *daúhtar;* Sk. *band* (Gk. πενθερός, L. *offendix*), Goth. *bindan;* Sk. *budh* (Gk. ἐπυθόμην), Goth. *biudan* 'command'; L. *gradus*, Goth. *grids* 'step,' where the *d*, *b*, and *g* of the Indo-Classical seem to remain in the Germanic. These exceptions were disposed of by **Grassmann** in the next volume of the same Zeitschrift, where he demonstrated the fact of the presence in the original language 'das gleichzeitige vorhandensein' of two aspirates, one of which has been lost by dissimilation. The roots of the above words should then with proper vowel denotation be written √dhugh-, √bhendh-, √bhudh-, √ghu̯redh-. The lautverschiebung is then seen to be regular.

To illustrate the second class of exceptions, place together by super-position the following cognates :—

$$\frac{\text{πατήρ}}{\text{Goth. fa}\textit{d}\text{ar}} = \frac{\text{κλυτός}}{\text{A.S. hlu}\textit{d}} = \frac{\text{ἑκατόν}}{\text{Goth. hun}\textit{d}} = \frac{\text{vavṛ}\textit{t}\text{imáhe}}{\text{wur}\textit{d}\text{on}} \;\; \genfrac{}{}{0pt}{}{\text{(1 pl: pf. ātm.)}}{\text{(pl. pret.)}}$$

Dentals have been chosen for illustration, but equations with other letters are available. Glancing at the equations, we see at once that we have in Germanic the voice stop *d*, instead of þ. Greek words bearing the original accent have been selected, in order to bring out the facts in as homely a way as possible. It will be noticed that in every case the Greek cognates and the one Sanskrit cognate have the accent following the consonant affected by the lautverschiebung. It should be noticed also that the consonants in question are medial. The syllabification, too, has to be attended to. The *t* is considered to belong to the preceding syllable—'alle dem vocale folgenden consonanten gehörten der vorhergehenden silbe an.' (Confer what Roby says on syllabification in his 'Latin Grammar,' p. 87, also in Preface to Grammar, p. lxxxiv.). Contrast now

$$\frac{\text{πατήρ}}{\text{fa}\textit{d}\text{ar}} \text{ with } \frac{\text{φράτηρ}}{\text{Goth.brōþar.}}$$

The last two cognates exhibit the usual transmutation. Coincident with this we notice that the accent precedes the *t*. For a similar coincidence contrast

$$\frac{\text{vavṛ}\textit{t}\text{imáhe}}{\text{wur}\textit{d}\text{on}} \text{ with } \frac{\text{vár}\textit{t}\text{e}}{\text{weorðe}}\;\begin{matrix}\text{(1 sing. pres. ātm.)}\\ \text{(1 sing. pres. ind.)}\end{matrix}$$

Here also the accent in the regular mutation precedes the *t*. Is the position of the accent coincident or causal? Causal. In each of the Greek cognates of the exceptional Germanic words, the accent follows the *t*, and in Sanskrit, the terminations of the perfect plural bear the accent. But φράτηρ has the accent on the first syllable, and in *várte*, the presence of *guṇa* proclaims the accent. The following statement will embrace the facts just alluded to:—Wherever, medially, in Germanic, the principal accent did not immediately precede the breath consonant under change, the final result gives us a voiced stop, *i.e.*, *t*, *p*, *k* pass into *d*, *b*, *g*. Under the same conditions *s* passes into *r*. If the accent immediately preceded, the mutation is regular, *i.e.*, *t*, *p*, *k* pass into *th*, *f*, *h*. Under the s~~o~~me conditions *s* / a remains. For example of *b* and *g* take

$$\text{Goth. }\frac{\text{ἑπτά}}{\text{si}\textit{b}\text{un}} \quad \text{and} \quad \text{A.S. }\frac{\text{ἑκυρά}}{\text{swe}\textit{g}\text{er.}}$$

This statement is **Verner's Law**, one of the acutest discoveries in linguistics, and most far-reaching in its results, first enunciated by Karl Verner in the twenty-third volume of Kuhn's Zeitschrift.

So much for the facts of the change, and the cause of the change, what about the *modus operandi?* Doubtless the *t*, *p*, *k* changed first into the breath spirants *th*, *f*, *h*; the vocalic surrounding vocalised these into the voiced spirants; these were afterwards stopped. Just as the law explains πατήρ and *fadar*, and the Anglo-Saxon *grammatischer wechsel*, seen in the singular *wearð* and the plural *wurdon*, a change due, as we have seen from Sanskrit, to the fact that, in the plural, the accent is on the terminations, so it explains the *s* and *r* seen in $\frac{\text{cēas}}{\text{curon}}$, the singular and plural preterite of *cēosan*. The *s* passed to *r* through *z*. There is no *grammatischer wechsel* in Gothic, no change in verbs of spirant into voiced stop, no *s* into *r*. The spirant and the *s* have been driven right through the verb, though there are traces of the voiced stops.

For an example of the occurrence of spirant and voiced stop in modern German, take *ziehen gezogen*, but sometimes, here, as in Gothic, the spirant is driven through as *zeihen geziehen*. Let me now give Verner's own words—'Indo-

germ. *k*, *t*, *p* gingen erst überall in *h*, *th*, *f* über; die so entstandenen tonlosen fricativæ, nebst der vom indogermanischen ererbten tonlosen fricativa *s*, wurden weiter inlautend bei tönender nachbarschaft selbst tönend, erhielten sich aber als tonlose im nachlaute betonter silben.'

Bugge has tried to extend the law to initial consonants. For example, the cognates $\frac{\textit{c}\text{ommunís}}{\textit{g}\text{amains}}$ lead him to infer that, when the accent follows at a distance of not less than two syllables, the law applies.

It is the fact, then, of the position of the consonant in the accented syllable (to adopt Verner's syllabification) of *brōþar* (*φράτηρ*), that prevents the passage of the *th* into *d*, as in the case of *πατήρ fadar*. What then was the nature of the accent? Was it one of pitch (?) like the primitive accent, or one of stress also. Verner says of stress also —'nicht länger rein chromatisch sondern zugleich exspiratorisch.'

The free accent of the parent speech must, however, have been operative, and have done its work, after the commencement of the first shift, otherwise the Teutonic accent proper, that on the stem-syllable, would have prevented the shifting into stops.

It may be asked here why the English *father* and *mother* have *th*. This used to be attributed to Scandinavian influence, or to the analogy of *brother*, but Dr. Joseph Wright, in the *Academy* for March 3rd, 1888, quotes many examples to prove that A.S. *d* became voiced *th* through the influence of following *r* (cp. Chap. IX., under **d**).

Before closing this chapter, a reference to some of the applications or extensions of Verner's Law will not be out of place.* In his book, 'Verner's Law in Italy,' Mr. **Conway** successfully applies the principle of Verner's Law to explain the absence of rhotacism in certain Latin words. One felt in a vague sort of way that *ásinus*, *caésariēs* (here the initial accent was kept till the law was dead), *vā́sum*, beside *géneris*, *gerḗbam*, *Aurḗlius*, presented an unexplained contradiction. With Mr. Conway's explanation the seeming contradiction disappears, and law obtains. This explanation runs as follows:—Wherever, medially, in Italic, an *s* between two vowels followed an unaccented syllable, the final result gave *z* in the non-rhotacising dialects, such as Oscan, and *r* (through *z*) in the rhotacising dialects, such as Latin and Umbrian; if the accent immediately preceded, the *s* was kept, save in Latin and Faliscan, where the change into *r* took place even then, if *i* or *u* followed the *s*, and the same vowels, or a long vowel or diphthong, preceded—e.g. *nā́ris*. This rule explains everything in the words quoted above. There are exceptions to the rule, however, such as *cū́ra*, following the analogy of *curā́re*, *dáre*, that of its compounds, and *eram*, which was probably enclitic and without accent. See also page 54.

* Dr. Fennell (Indo-European Vowel System, a pamphlet well deserving careful perusal) attributes the result *d* in *fadar* to the fact that it ends a syllable. It is the initial letter of a syllable (I suppose Bugge is thrown) that shews the regular change, and for the reason that it is initial. Verner would have said that the *t* of φράτηρ changes regularly because it is in the accented syllable, Fennell says that it so changes because it begins the next syllable. He lays down the proposition that an accented syllable was weighted as lightly as possible with consonants. On this proposition the *t* of φράτηρ begins the second, and the *t* of πατήρ ends the first syllable of their respective words. In Verner's syllabification both *t*'s ended first syllables, one accented and one not.

Mr. J. H. **Moulton** in Vol. VIII. of the American Journal of Philology applied the principle of Verner's Law to explain the presence of a tenuis in Greek, where one would have expected a hard aspirate. In his own words :—'Original hard aspirates lose their aspiration in Greek except where the accent immediately precedes.' Take for examples οἶσθα and ἐστέ (Sk. *sthá*), the I.E. superlative suffix *-thós* seen in Sk. *-thá* and -τός ; Sk. *mithás* and μετά (A.S. *med*). It will be seen that where the accent follows, the tenuis appears. Sentence-accent too has contributed examples, *i.e.*, the immediately preceding accent that preserved aspiration might, in the case of initial aspirates not accented on the root, be got from a preceding oxytone. This occurrence might be frequent enough to give rise to doublets—to a σχ due to the action of a preceding oxytone in the sentence-life of the word, alongside of the σκ of the rule. In many cases, the aspirated form obtained the wider extension, might even, under the operation of levelling 'ausgleichung,' obliterate all traces of the form with the tenuis.

Next, we have **Siever's Law**, to the effect that a *ǵ* occurring before *w* in an unaccented syllable disappeared—*e.g.*, A.S. *gesewen* for *gesegwén*, Goth. *mawi* 'maid' for *magwí*, *Magus* however for *magwús*, because, to quote Mr. Sweet, 'in an early stage of Germanic in which Aryan *o* was still preserved, as well as Aryan *ō*, *u*, *ū*, the *w* was dropped before these round vowels, but kept before *a*, *i*, *e*.'

There is also an alternation of *c* and *g* mentioned in the History of English Sounds, which may possibly be due to nasal action together with a varying accent. Compare *sūcan*, *sūgan*, 'suck'; and *wīcing* 'pirate,' *wīg* 'war' (L. *vincere*). In this last, the nasal seen in the Latin, would voice the *c* into *g* in an unaccented syllable. Note also in this connection *mendāx* and *mentīrī.*

Paul and Kluge's Law covers another class of exceptions to Grimm's Law, viz., those in which *gg*, *dd*, *bb* got from I.E. *ghn*, $gh^{u}n$, *dhn*, *bhn*, or, by Verner's Law, from *kn*, $k^{u}n$, *tn*, *pn*, or from original mediae followed by *n*, with accent following, become *kk*, *tt*, *pp*. For illustration, trace the process by which A.S. *smocc* has been reached—I.E. $smuk^{u}n\acute{o}$- into *smuhná*, *smugná* (by Verner's Law), *smuggá* (by assimilation), *smukká*. It is this last act that exemplifies Paul and Kluge's Law. The *o* in *smocc* is due to *a*-umlaut. If the accent had preceded the I.E. *k*, the result would of course have been *hn*.

CHAPTER VIII.

SOUND RELATIONS IN ENGLISH—INTRODUCTION AND SHORT VOWELS.

The **Anglo-Saxon alphabet** was got from the British Celts. These of course used the Latin Alphabet, into the writing of which they had introduced certain modifications. Anglo-Saxon text books are now usually printed with modern characters, but any one who cares to gain a knowledge of the look of the old script may get this by looking into, say, Thorpe's edition of Alfred's Orosius. The making of the letters *d*, *f*, *g*, *r*, *s*, *t*, is quite noticeable. The Modern Irish Alphabet of eighteen letters presents, so far as it goes, a very similar appearance. The Anglo-Saxon letters, using the ordinary with two supplementary characters, are : *a*, *æ*, *e*, *ı*, *o*, *u*, *y*—*b*, *c*, *d*, ð, *f*, *g*, *h*, *l*, *m*, *n*, *p*, *r*, *s*, *t*, þ, *w*, *x*.

þ (thorn) is taken from the runic alphabet. ð is a manipulation of the character for *d*, to express the sound of *th* in *then*, but the MSS. use this and the previous character to express both sounds of the English *th*, either that in *then*, or that in *thing*. It may be worth while mentioning that in the oldest texts (as now), *th* denoted both sounds. In some books another runic character (*wēn*) is used for the sound expressed by *w*. The A.S. ȝ is sometimes retained in preference to *g*. Sometimes *k* is written in the MSS. for *c*, and for the usual *cw* (*cu*), the Latin symbol *qu* sometimes appears. The letter *z* is rare in

Anglo-Saxon. It sometimes represents the sound of *ts*, and in foreign names perhaps had the value of Gk. ζ, i.e., *dz*. *æ* had the value of *a* (low-front-wide) in the word *man* (English, not Scotch). *y* retained the value of Gk. upsīlon (high-front-narrow-round). This sound had already (as afterwards took place in English through unrounding) in Old High German been confused with *i*. *c* had always the hard sound (two varieties, but not an *s*-sound). Umlaut-*e* is sometimes written as *ę*. Further remarks on the sounds expressed by these letters will be made later on. See also *passim* in Chaps. VIII. and IX.

There are **dialects in Anglo-Saxon** which often exhibit differences in spelling, differences that have to be noted, because some one of them, rather than its dialectical neighbours, may have given rise to the present English form. The chief dialects are the Northumbrian, the Mercian, and the West-Saxon. The language-area occupied by these dialects reached from the Forth on the north to the English Channel on the south, and may be said to have had for dividing-lines the Humber and the Thames. Mercian occupied the district between these two rivers, and marched on the north with Northumbrian and on the south with West-Saxon. Anglian is a common name for Northumbrian and Mercian.

The **Middle English dialects**—Northern, Midland, and Southern—corresponded in the main, both dialectically and geographically, to the older dialects. The Southern dialect bears strong traces of Midland influence. In both the Anglo-Saxon and Middle English periods, there existed another sufficiently distinctive variety of the language, to which the name Kentish has been given.

Middle English may be said to begin with the year 1150, and to end with the year 1450. Both before and after this interval, a considerable time—a century before, and half a century after—must be allowed for the transition from Anglo-Saxon to Middle English, and for the transition from Middle English to Modern English. The latter then, begins with the year 1500. Mr Sweet makes it extend over three stages of development, to the year 1800, from which point he dates the beginning of Living English.

Middle English is a slow, self-contained, and natural development out of Anglo-Saxon. It seems, in that case, all the more needful to answer a question that is naturally suggested by the date assigned above to the commencement of the language. That question is—what influence had the Norman-French of the victors on the language? None, we have just said, on its linguistic development. On its vocabulary and orthography, a very great influence indeed. The vocabulary does not exactly concern the subject of this chapter. Suffice it to say that it was not till well on in the thirteenth century that foreign words were introduced in large numbers, the busiest time being the interval between 1250 and 1350. Of the influence exerted on the orthography, more presently.

A sentence or two to record the **main varieties in the Anglo-Saxon dialects.**

In the Anglian dialect, the *ǫ* that interchanged with *a* in Anglo-Saxon before nasals is preferred to the *a*. For West Saxon *æ*, *e* is found in Mercian (and Kentish). There *æ* means *ǣ*. The *ǣ* of West-Saxon that equals Teut. ǣ (Goth. ē, O.H.G. ā) is represented in Anglian and Kentish by *ē*. For *ea* before *l* and a consonant, *a* (probably long) occurs universally in Anglian. For *ea* before *rc* and *rg*, *e* appears in Anglian. Northumbrian may have *æ*. *ea* before *h*, *x*, and *ht*, appears in Anglian as *æ*. For the W.S. *ea* that denoted the result brought about by the development of a glide-vowel between the fronts *c* and *g* and the following *æ*, there appears in the non-W.S. dialects the aforesaid *æ*—*gæf* (W.S. *geaf*). Compare the appearance in a similar surrounding of non-W.S. *gē̆fon* for W.S. *gēafon*. The symbol *ea* is however found in Mercian as *u*-(or *o*-)mutation of *a*, and in Northumbrian as *o*- (or *a*-) mutation of *e* (W.S. *eo*). In Anglian, *ēa* before *c*, *g*, *h*, is reduced to *ē*. *eo* before *h*, *rc*, *rg*, *rh*, is reduced to *e*, *ēo* before *c*, *g*, *h*, to *ē*. These sounds are often left unmutated. For the W.S. *ie*, *e* appears in Anglian and Kentish, and for *īe*, *ē*. *œ* the mutation of *o*, and *œ̄* the mutation of *ō*, appear in Northumbrian and Kentish, the *œ̄* in Mercian as well. These are unrounded in West-Saxon to *e* and *ē*.

Of the Middle English dialects, the Midland is the most important, and of its varieties, that variety which is called East Midland. This coloured by the Southern dialect is the source of standard Modern English.

The differences between **the Southern and East Midland varieties of Middle English** can be shortly shewn.

The Southern *ǫ* before nasals is unrounded in East Midland to *a*. The *ę*, with sound of A.S. *æ* (l. f. w), under which the A.S. *æ* and *ea* had in Middle English been levelled, is represented in East Midland by *a*. The A.S. *ā* which was unrounded to *ǭ* in Southern is retained unchanged in East Midland. Southern *eo* and *ēo* are represented in East Midland by the reductions *e ē*, as well as by the digraphs. Both Southern and East Midland represent A.S. *ēa* by *ę̄*. A.S. *y* and *ȳ* are unrounded in

East Midland to *i* and *ī*, while in Southern they are represented by *u*, *ū*. The Kentish of both the Anglo-Saxon and Middle English periods represents *ȳ̆* by *ē̆*. It is to be noted that the same dialect represents A.S. *ea eo*, short and long, by *ya ye*. Chaucer uses the letters that have been given above to East Midland, but has the *ǭ* (rounded *ā*) of Southern.

To return now to French influence on Middle English orthography.

After 1400, Anglo-French was dead as a spoken language. Its teaching, had been stopped in schools, as Trevisa tells us, in 1385.

Some space will be needed to note the great **influence exerted by Anglo-French on the orthography of Middle English.**

It is convenient here to notice, in regard to handwriting, that the Anglo-Saxon forms for the *d*, *f*, *g*, *r*, *s*, *t*, of the Celtic Roman alphabet were ousted by the forms of the French hand. Mr Sweet, in writing of the change wrought on English orthography by Norman-French influence, says that it amounted to the introduction of a totally new orthographical basis, shaped and confined of course by the existing orthography. Certain facts will be adduced to bear this out. **Vowels first.**

A.S. *æ* (A.S. *ea* was levelled under this letter), under Anglo-French influence, is expressed in the Southern dialect by *e*. The *æ* (and *œ*), that vulgar Latin transmitted to French, had been levelled under *e*. The Ormulum keeps the symbol *ǣ*, but with the value *œ*. The short *æ* is in this text written *a*.

Under the influence of Anglo-French, in which *ie* (i·ee) had been reduced to (ee), the same symbol *ie* (*ye*) came to connote the sound (ee), and is used in late Middle English to represent this sound (close *ē*), not only in French words like *meschief*, but also in English words, e.g. Chaucer's *lief* (also *leef*) (A.S. *lēof*).

i is, later on in Middle English, written as *y*, a symbol, which in French writing was convertible with *i*. The *y* is very common in the neighbourhood of *n*, *m*, *u*, *w*, and at the beginning and end of words. The possible confusion in form is sometimes avoided in the case of initial *i* by writing it as a capital.

In Chaucer *y* appears for *ī*.

The writing of the diphthongs *ai* and *ei* as *ay* and *ey* should also be noticed.

u, after the French manner, is sometimes written as *o*, in the neighbourhood of letters that have a like form, viz., *u* (consonantal), *n*, *m*, *w*. Initially the confusion could be avoided by writing *u* as *v*.

In late Middle English, *o* was also written for *u*, when a consonant + vowel followed.

Latin *u* (and *ō* —a close sound in Latin) had in French passed into a sound between (u) and (o), which was then written *u* or *o* (close), though *o* afterwards prevailed. There was also in French an open *o*, coming from Latin *ŏ* (and *au*).

The long *u*-sound is, owing to the said influence, quite widely written in late Middle English as *ou*, a symbol which in French had put off its diphthongic sound, and taken on that of (uu). This sound follows the development that native words in *ū* exhibit—A.S. *hūs*, M.E. *hous*, Mod. E. *house* (au).

Anglo-French influence caused A.S. *y ȳ* to be written as *u* in the Southern dialect. *ȳ* is sometimes written *ui*, and later on, *uy*.

The Ormulum for A.S. *y ȳ* has *i ī*. The A.S. *y* had been pretty generally unrounded, save in the Southern dialect.

w and ȝ (front-open) were used in the Ormulum as diphthongic signs (after short vowels written *ww*, ȝȝ) to represent the second element of diphthongs. These are afterwards replaced by Latin and French *u*, *i*.

w however again got vogue as diphthongic element after back vowels (*a*, *o*, *u*)—M.E. *drawen* (A.S. *dragan*, Ormulum *draȝhenn* (ȝ*h* = back-open)).

Consonantal orthography suffered greater changes than vocalic.

The *back c* of Anglo-Saxon is written *k* before *e* and *i*. The Ormulum has *k* also before *a*. *c* is retained before *o* and *u*, and before consonants, but the Ancren Riwle often has *k* before *o* and *u*, and before consonants, save *w*.

c has, in more modern times, ousted *k* initially, before *l* and *r*.

The disuse of *c* is owing to the fact that *c* before *e* and *i* suggested to a French scribe the sound of *s*. Later on in Middle English, *c* is used to denote an *s*-sound. Earlier, it had been used with old Anglo-French value of *ts*. *sc* was written as *sch*.

The same symbol, however, sometimes had the value *sk*—*sclaundre*, *sklaundre* (*slander*—*scl* is now disused), and represented that sound, except before *e*, *i*, *y*.

ss is, both in French and English, written *sc*, a combination which in Anglo-French had a *ss*- or *s*- sound—*lescūn*, *blescien.* For *cw*, *qu*, a symbol sometimes used in the Anglo-Saxon period, ultimately prevailed.

Front c was in Middle English ultimately written with the French symbol *ch*. Its doubling was written *cch* or *chch.*

þ, which had prevailed over the alternating ð and þ of the Anglo-Saxon script, was now by the action of French scribes replaced by *th*, which, as we saw, was not unknown in the Anglo-Saxon period.

f, which in the Anglo-Saxon stood for both breath and voice sound, remains in the Ormulum, but the Ancren Riwle, with its strong traces of the influence of the foreign spelling, has consonantal *u* (*v*) medially, and sometimes initially. Finally, and before voiced consonants, *f* is retained. Had *u* been written here, it would with the preceding vowel have looked a diphthong.

Latin *v* had in French lost its *w*-sound, and taken on the voiced sound of *f*. In Chaucer, *f* expresses the *v*-sound only in *of*.

The French *g* now takes the place of the A.S. ȝ (a sorely burdened letter), as the symbol of the stop consonant. It also represents French soft *g*.

ȝ (its graphic descendant) is retained to express its own open sounds.

French soft *g* when initial is usually written *j*.

ge and *gg*e represent the *j*- and *jj*- sounds when final.

For the front-open *g* take as example from Ormulum—*ȝung*.

In the same text, back-open *g* is written *ȝh—follȝheun* This symbol in the Southern dialect appears as *h*.

Some East Midland texts use *g* rather than ȝ.

Later on in Middle English, consonantal *y* can replace ȝ.

The hard *g* is sometimes represented late in the fifteenth century, both in French and English words, by *gu*, which had lost its after-sound in later Anglo-French.

h had a back and front variety (initially it had been weakened to a simple breath). For both of these sounds it is retained in Middle English. *ch* was sometimes used, but owing to confusion with A.F. *ch*, went out of vogue. Later on, French scribes refusing to endow this symbol, weak in their own tongue, with such power, use other symbols. *g* is used and also ʒ. In the Northern dialect, in addition to these, *gh* came into fashion. This passed to the South and is common in Chaucer.

Front gh changes into *y* before a vowel—*hȳe* (also written *hīe*).

Back gh (usually preceded by *u*, which is sometimes dropped after *o*) often falls out before a vowel—*ynough*, *ynowe* (plu.). Both the front and back variety may drop, finally, and before *t*.

A.F. *z* is sometimes written for voiced *s*. The symbol *s* stood in Anglo-Saxon and Middle English for both breath and voice sound.

The earlier value of A.F. *z*, viz., *ts*, also appears in the combination *nz*, remaining down to Chaucer, e.g., *vestimenz*.

The Anglo-Saxon rune-symbol for *w*, used in the Ormulum and the Ancren Riwle, is replaced by the French symbol *w*, the product of two *v's* with value of *u*.

Consonantal *y* has arisen, says Mr Sweet, from the habit that scribes had in later Anglo-French of writing *y* initially for *i* (*j*).

Before leaving Middle English orthography, something should be said about **Orm's spelling.** To denote shortness of the preceding vowel, every consonant that was final, or followed by another consonant, was doubled. If the consonant were followed by a vowel, the doubling did not take place, for then, an air of reality would have been bestowed on the word, and confusion with real words would have ensued. In such words Orm often used marks, the short mark for short vowels, and an accent for long.

It is a fact that in Modern English a final consonant is long after a stressed short vowel, and short after a stressed long vowel. Englishmen have a difficulty in reproducing the short consonant that follows a stressed short vowel in foreign words.

Not that Orm's spelling indicated real consonant length, for he uses it in syllables that have no stress. It was a mere device to indicate quantity, possibly suggested by existing facts, though, as we have seen, in Orm's day, a short vowel before a consonant and vowel could retain its shortness.

The presence of **final doubled consonants** began to be considered a sign of shortness of vowel, and *vice versâ*, that of single consonants, as a sign of length.

It should be added that final consonants in Middle English (as in Modern English) were pronounced long after a short vowel, whether written double or not.

The loss of final *e* which began in Chaucer's time, and was completely generalised by the middle of the fifteenth century, gave birth to many types of words with short vowels, followed finally by two consonants—*lesse* into *less*.

Moreover, long vowels were regularly shortened in Middle English before two consonants (except before certain lengthening combinations—for which, see below).

Thus it came to pass that in an accented syllable two consonants came to argue shortness of vowel.

Of course in unstressed syllables consonants were shortened both in Anglo-Saxon and Middle English—A.S. *Wēsten(n)es*, M.E. *sünful(l)e*.

Original single consonants were also sometimes doubled between vowels in Middle English—*summe* plu. of *sum* 'some,' *wunnunge* 'dwelling.'

It was to be expected that many words with short vowel and single consonant in Middle English would tack on another. This is so—*pepper*, *penny* (M.E. *peper*, A.S. *pipor*—M.E. *peny*, A.S. *penig*).

Even in Anglo-Saxon, *c*, *t*, *p*, *h*, after a short vowel, appeared sometimes doubled before *r* and *l*—*bitter*, *aeppel*.

Sometimes the doubled consonant of the pronunciation appeared in writing in the inflexions — *God*, *Goddes* (Chaucer).

Length of vowel was sometimes indicated in Anglo-Saxon by a doubling of vowel (or by accent). This practice gained ground in late Middle English, and is quite common in Chaucer, especially in monosyllables. *i* and *u* are not often doubled.

In Modern English, **final e** is a sign of a preceding long vowel. This result has been produced quite fortuitously. The weathering that attacked the Anglo-Saxon unstressed endings often evolved a form containing an original long vowel followed by a consonant and the levelled *e*-ending —*strike* (M.E. *striken*, A.S. *strīcan*). The *name* type of words, in which an original short vowel became lengthened in Middle English before a consonant and vowel (see below), presented similar forms. The *bone* type of words (A.S. *bān* —the *ā* was rounded in Middle English to *ō*), in which there was originally no *e* in the nominative, suffered contamination in form with the dissyllabic cases (especially the dative), where the long vowel was not written doubled, and took on an *e*.

At this time the levelled *e*-endings of the unstressed syllables were on the road to mute endings. This progress had already been completed in Northumbrian, and may to a certain extent be regarded as a Gallicism, the French of that day presenting many examples of *e's* that had become mute. The word-types in which silent final *e* happened to occur along with a long vowel were generalised, and a function foreign to the *e* was fatuously fathered on it.

The use of final *e* was somewhat wild. It was used after short vowels—*hyme* 'him.'

It does not indicate length of vowel after *v*—*live*; *love*. The *e* in these words is a graphic necessity. When *v* (consonantal *u*) was written *u*, its appearance after a vowel would have led to confusion with diphthongic combinations.

We have discarded *e* in many words where it did not indicate length, or was not needed for that purpose—*roome*, *cheere*, *shoulde*. At the beginning of the Modern Period, final *e* could also denote length after two consonants—*chylde.*

A few **supplementary remarks on the general orthography of Middle English and Modern English** will now be made.

Early in the Middle English period *hr*, *hl*, *hn* passed into *r*, *l*, *n*. The spellings *rh*, *bh*, and *nh*, are also found in early texts.

hw however, retained the order of its letters, but even in the Ormulun, *wh* occurs, proving that the present English pronunciation of a breath *w*, was then in existence.

In the Northumbrian dialect the *h* of the *hw* was individualised to such an extent that the aspirated labial really became a labialised guttural, expressed by *qu quh*, which sounds may be seen written in Scotch proper names, and still heard from Scotch lips in certain parts of Scotland.

The prefix *ge-* was represented by *i-*, as early as the tenth century.

ai and *au* were often written *ay* and *aw*, when followed by a vowel, or at the end of a word.

w was sometimes written for *u*—*hu*, *hw*, *hou* (A.S. *hū*).

Somewhere in the fifteenth century, *j* and *v*, formerly mere graphic varieties of *i* and *u*, began to be set apart for the consonantal function of these letters. To begin with, they were used initially. *v* had already been employed initially in Chaucer.

The letter ȝ passed out of use. Its form had become too like that of *z*, in fact it is actually written *z* in old Scotch writing—*zeir* for *year*.

Compare the confusion between þ and *y*. In Grafton's Bible of 1540, these letters are formed exactly alike.

sch passed into *sh*. *ssh* was reduced to the same symbol. Doubled *k* is expressed by *ck*.

In several words *gh* is used for hard *g*—*ghost*, *gherkin*. Spenser has *ghess* (*guess*). *gh* expresses hard *g* in Italian before *e* and *i*.

The M.E. *cch* (*chch*) is sometimes written *tch*, and M.E. *gge* is written *dge*—*stretch* (M.E. *strecchen*), *hedge* (M.E. *hegge*). Spenser has *ritch* for *rich*.

At the beginning of the Modern Period, *y* became almost convertible with *i*. *y* was preferred finally. Final *i* also assumed the form *ie*. Later on, *y* was expelled from many places.

In latter-day English, **spelling** and **speaking** have become quite divorced, and the estrangement is bound to widen, so long as the spelling is held sacred. We have in fact two languages, one for the eye, and one for the ear. The symbols of the former are arbitrary, without the advantage of being consistent. Speak as you spell, and spell as you speak, are not exactly counsels of perfection in English.

There must next be given a **list of words to illustrate the passage of A.S. vowel-sounds through Middle English into Modern English.** These are of course selected from Mr. Sweet's great work.

In the first column, the Anglo-Saxon (West Saxon, Anglian) word is given, in the second and third, the Middle English and Modern English equivalents. The sounds are taken in this order of Anglo-Saxon vowels—**a** (æ, ǫ, ea), **e** (eo), **i**, **o**, **u**, **y**; ā, ǣ, ē, ēa, ēo, ī, ō, ū, ȳ. They are then divided out into the living English sounds that derive from them, with subdivisions according to the spelling.

The following is a table of **living English sounds**, with the symbols to be used in classification. The slight sketch of Phonetics inserted further on will explain the terminology of the definitions and explanations.

ɐ (m. b. n.) *come.*
ə (m. m. w.) —*dom.*
i (h. f. w.) *fill.*
e (m. f. w.) *men.*
æ (l. f. w.) *man.*
u (h. b. w. r.) *full.*
o (l. b. w. r.) *not.*
əə (l. m. n.) *bird.*
ai (m. m. w.+h. f. w.) *high.*
aiə *hire.*
au (l. m. w.+m. m. w. r.) *how.*
auə *our.*
oi (m. b. w. r.+h. f. w.) *boil.*
ei (m. f. w.+h. f. w.) *they.*
ou (m. b. w. r.+same, rounded) *know.*
ii (h. f. w., diphthongic) *feel.*
uu (h. b. w. r., diphthongic) *soon.*
yuu *hue.*
iə (h. f. w.+m. w.) *fear.*
äə (l. f. n.+m. m. w.) *fare.*
uə h. b. w. r.+m. m. w.) *moor.*
yuə *your.*
ɔə (l. b. n. r.+m. m. w.) *gore.*
aa (m. b. w.) *far.*
ɔɔ (l. b. n. r.) *fall.*

Doubling means length. The symbol plus the definition ought to make the sound clear.

The sounds defined are those of living English. The

Scotch, Irish, American, and even North English sounds are not always the same.

au—In Scotch, the first element is the mid-back-narrow.

ii—In Scotch, Irish, and American English, the vowel is still a long monophthong, and narrow.

ei—Scotch here has not a diphthong, but the long mid-front-narrow.

äe—This sound only occurs before r. In Scotch the r is of course trilled, and the vowel is long mid-front-narrow.

uu—In Scotch, North English, Irish, and American English, the old long monophthongic high-back-narrow-round is kept. Compare the English and Scotch pronunciation of *two* or *too.*

ou—Scotch has the old non-diphthongic mid-back-narrow-round.

aa—In Scotch, this vowel is generally long mid-back-wide-round.

ɐ—The full back vowel is heard in the West of England, and in Scotland. The ordinary English sound is rather fronted.

e—In Scotch and North English, the *e* in *men* is low-front-wide.

æ—Scotch *man* has the low-back-wide.

u—Scotch *book* has the high-back-narrow-round.

ɒ—In Scotch, this sound is usually represented by the mid-back-wide-round.

By Scotch is meant the Scotch pronunciation of English. The vernacular word may have quite a different sound, e.g., the vernacular *buik* has the mid-front-narrow-round.

To save reiteration further on it will be well to set down here some of **the principles that regulate lengthening and shortening in Anglo-Saxon and Middle English.**

There were in the Anglo-Saxon (chiefly in late West-Saxon and Anglian) certain consonant groups before which vowels were often lengthened. These groups were composed of *r*, *l*, *m*, *n*, and certain succeeding consonants.

Short vowels, followed by unstressed syllables, were also sometimes lengthened. This was much more pronounced in Middle English.

Monosyllables ending in a stressed vowel were regularly lengthened—*mē*, ð*ū*, ð*ē*, *gē*, *hē*, *sē*.

Many monosyllables ending in a single consonant are also found long—*ōf*, *ōn*, *ōr-*, *ūn-*, *īc*, 'I,' *wēl*, *wēr*, 'man,' *brǣc* (from analogy of *brǣcon*).

On the questioning of shortening before two consonants, as in Middle English (see below), the evidence is uncertain.

The vowels of the unstressed elements of compounds very often kept quantity, *dōm* and *hād* always.

Vowels in final and derivative syllables were often shortened.

In Middle English, short vowels in accented syllables were lengthened before a consonant followed by a vowel. *i* and *u* did not take on length.

Monosyllables kept their short vowels. These in certain cases were lengthened, owing to the influence of inflectional forms, which, with their additional vowel, came under the scope of the above rule. Several nouns, for instance, borrowed a vowel from their oblique cases and got lengthening, or borrowed, it may be, lengthening and vowel together.)

Certain preterites of one syllable—*yaf*, *shak*, *brak*, &c., afterwards conformed to the rule (*gave*, *spake*, *brake*), assuming the long vowel of the related forms that got lengthened by the operation of said rule.

The rule is sometimes inoperative, when the single consonant is followed by *—er*, *—el*, *—en*, *—ing*, *—i*. These are called the **back-shortening** terminations. Shortness for example is retained in the following words—*fader*, *sadel*, *seven*, *hering*, *bodi*. Perhaps, in certain words, the inflected forms that, owing to syncope of their vowels, did not come under the above rule, influenced the nominatives. Some of these exceptions will occur hereafter.

The rule obtained, in spite of the usual shortening syllables, in *aker*, *taper*, *ouer*, *cradel*, *euen*. Compare these as to sound with the previous exceptions.

It is also to be noticed that the *—er*, *—el*, &c., may not only nullify the action of the lengthening rule, but do actually sometimes shorten a preceding long vowel (cp. *lather*, *sorry*).

Before two consonants, vowels are regularly shortened in Middle English.

Just as in Anglo-Saxon, however, there were certain consonant-combinations that often lengthened the preceding vowel. The second consonant had to be a sonant, and not every combination of *r*, *l*, *m*, *n* and sonant was effective. Examples are, *bōrd* 'board,' *kāld* 'cold,' *tālde* 'told,' *chīld*, *blīnd*, *clīmben*.

The terminations that conserved shortness, and interfered with the action of the consonant + vowel rule, gave pause also in the consonant-combination rule.

There were also some pure exceptions—*shollde* and *wollde* (from the Ormulum).

Before *ng*, which perhaps had suffered simplification of sound, original shortness had been recovered. The spelling *o* (for short *u*), found in *yong*, *tonge*, proves this. The form *young* has preserved in writing the symbol for long *u*, viz., *ou*, or, it may be, borrowed it from *youth.*

So also the vowel before *mb* got back shortness as in *dumb.*

Just as much **phonetics** as is necessary for the understanding of the word-lists will now be given.

The breath that passes from the lungs into the upper passages may either pass freely and retain its quality, or, by thrumming on the vocal chords that close the glottis, be changed into voice. Vowels have to do with voice, consonants with both breath and voice.

A **table of vowel-sounds** is first set down. These are produced by the voiced breath that is freely projected into the differently disposed resonance-chamber of the mouth.

The following are the definitions of the terms used in their description:—(a) *high*, *mid*, *low*—these denote the various positions of the articulating tongue; (b) *back*, *mixed*, *front*—these refer to the part of the tongue that is active in articulation, *mixed* denoting that the tongue is in its natural level state; (c) *narrow*, *wide*—*narrow* indicates that the surface of the active part of the tongue is tense, *wide* that it is in its ordinary flaccid state; (d) *round*—this means that the lips are narrowed during the utterance of the sound.

Occasionally, in this and the following chapter, the action of sound-processes will be described by verbs—*rounded*, *backed*, *fronted*, &c.—the meanings of which repose on the definitions of the above terms.

Bell's names for the vowels are *primary* and *wide.* His explanation of these terms differs from the foregoing (Sweet's). He states that *wide* vowels differ from *narrow* in that they 'have an additional expansion of the soft palate, enlarging the back cavity of the mouth.'

VOWEL-SOUNDS.

high-back-narrow Gael. l*aogh*	high-mixed-narrow Welsh *u*n	high-front-narrow Sc. s*ei*k Fr. f*i*n*i* G. b*ie*ne (long)	high-back-wide	high-mixed-wide E. pretty	high-front-wide E. b*i*t
mid-back-narrow E. and Sc. b*u*t	mid-mixed-narrow G. gab*e* Fr. qu*e*	mid-front-narrow Fr. *été* G. s*ee* (long)	mid-back-wide E. f*a*ther Fr. p*a*tte G. v*a*ter	mid-mixed-wide E. bett*er*	mid-front-wide E. m*e*n Sc. f*y*rst G. f*e*st
low-back-narrow Cockney p*ar*k Occas. Sc. b*u*t	low-mixed-narrow E. *err*, b*ir*d, s*ir*	low-front-narrow E. c*are* Sc. t*e*ll	low-back-wide Sc. f*a*ther, m*a*n Fr. p*â*te	low-mixed-wide E. h*ow* (first element) Occas. Sc. *err*, b*ir*d	low-front-wide E. m*a*n Sc. m*e*n
high-back-narrow-round Sc.-E. b*oo*k Fr. s*ou* G. g*u*t (long)	high-mixed-narrow-round Nor. and Sw. h*u*s	high-front-narrow-round Fr. l*u*ne G. gr*ü*n (long)	high-back-wide-round E. f*u*ll, b*oo*k G. h*u*nd	high-mixed-wide-round E. val*ue*	high-front-wide-round G. sch*ü*tzen
mid-back-narrow-round Fr. b*eau* G. s*oh*n (long)	mid-mixed-narrow-round	mid-front-narrow-round Sc. b*ui*k Fr. p*eu* G. sch*ö*n (long)	mid-back-wide-round E. s*o* (diphthongic) Sc. r*oa*d Fr. *o*r G. s*o*nne	mid-mixed-wide round E. s*o*lo (slightly diphthongic) Fr. h*o*mme	mid-front-wide-round Fr. p*eu*r G. G*ö*tter
low-back-narrow-round E. l*aw*	low-mixed-narrow-round	low-front-narrow-round Sw. f*ö*r	low-back-wide-round E. n*o*t	low-mixed-wide-round	low-front-wide-round

Bell says that the high-mixed-narrow is heard in American *sir* and *her*.

An idea of the high-back-wide may be got by pronouncing the *u* in *full*, and at the same time forcing asunder the lips with finger and thumb. Bell says that the unaccented *ou* in *-tious* has this sound.

Low-front-wide-round—Bell says that this is heard in the Cockney *about*.

Mid-mixed-narrow-round—Heard, says Bell, in Yorkshire *come*, and Irish *Dublin*.

Low-mixed-narrow-round—In Irish *her*, *sir*, *stir* (Bell).

Low-mixed-wide-round—Regular sound of Irish short *o* in *not*, *gone*, &c. (Bell).

Consonant-sounds are produced by the voiced or voiceless breath that is projected upwards, and impeded or stopped at some part of the throat or mouth. The simplest consonant is the throat sound, the aspirate *h*.

In uttering consonants, the sound passage may be (1) clear, and the result be *open* sounds (2) blocked in the centre, and the result be *side* sounds (3) blocked altogether, and the result be *stop* sounds (4) blocked altogether, with free nose-passage, and the result be *nasal* sounds.

The parts of the tongue, &c., active in the articulation of consonants (*i.e.* in the partial or complete stoppage of sound) are sufficiently indicated by the names at the top of each column. *Front* means the middle of the tongue; *point*, the tip; and *blade*, the part behind the point; *blade-point* indicates that variety of consonant-sound in which the blade-action is accompanied by a raising of the point of the tongue; *lip-backs* have a closer approximation of the lips than the *lip* consonants, accompanied by a heightening of the back of the tongue.

Here follows a **list of consonant-sounds** with noticeable

CONSONANT-SOUNDS.

BREATH.

	Throat	Back	Front	Point	Pt.-Teeth	Blade	Bl.-Point	Lip	Lip-Back	Lip-Teeth
OPEN	E. & G. *h* (initial)	Sc. lo*ch* G. na*ch*	G. i*ch* Sc. fee*ch* (nearly)	A.S. *hr*	E. *th*in	E. *s*ay Fr. *s*ou + G. wa*s*	E. *sh*ip Fr. *ch*at + G. fi*sch* (rounded)		E. *wh*at	E. *f*all Fr. *f*in G. *f*reund G. *v*oll
SIDE				A.S. *hl* Fr. tab*le* +						
STOP		E. *c*ake Fr. *qu*i G. *k*ommen	Sk. *c* (*ch*)	E. *t*en Fr. *t*out } + G. *t*un				E. *p*ay Fr. *P*aris G. lie*b*		G. *pf*und
NASAL				A.S. *hn*				Sc. *mmhm*		

VOICE.

OPEN		G. sa*g*en	E. *y*ou Fr. bri*ll*er G. *j*a	Sc. *r*	E. *th*en	E. *z*eal Fr. *z*èle + G. *s*o	E. rou*g*e Fr. *j*our +	G. *qu*elle	E. *w*e Fr. *ou*i	E. *v*iew Fr. *v*in G. *w*as
SIDE			It. *gl*i	E. *l*ook Fr. be*ll*e } + G. *l*ang						
STOP		E. *g*o Fr. *g*out G. *g*ut	Sk. *j*	E. *d*ay Fr. *d*oux } + G. *d*u				E. *b*ee Fr. *b*on G. *b*in		
NASAL		E. si*ng*	It. *gn*	E. *n*o Fr. *n*on } + G. *n*un				E. *m*an Fr. *m*on G. *m*ann		

+ This means that the position is more advanced than the heading indicates.

Bell's account differs from the above (Sweet's) in analysis and nomenclature. For *side* and *stop* he uses *divided* and *shut.* He has *wh*, *sh*, *s* (*w*, *zh*, *z*), in a row by themselves, with the name *mixed.* This term describes a narrowing of the sound passage, brought about by a raising of the front part of the tongue, or, in the case of the lip-sounds, by a contraction of the back part of the mouth. He places *f* (*v*) in his *divided* row, and classes *th* (*dh*) as a member of a *mixed-divided* row.

Glides are the parasitic sounds that arise in the passage from one sound-position to another.

It is now time to give the **lists of typical examples of sound-change** referred to above.

a, æ, ǫ, ea : A.S. (i.e. West Saxon) *a*, representing Teutonic *a* (I.E. *a*, *o*, and indeterminate vowel *ə*), is not a particularly common sound. It occurs in open syllables that are followed either by the back vowels *a*, *o*, or *u*, as *faran* but *færest*, *dagum*, dat. plu. of *dæg*, *dæges*, or by front vowels that have developed out of original back vowels, as *hacele* 'cloak' (Goth. *hakuls*), *macian* 'make' (Teutonic stem *-ōja-*). In close syllables it generally gives place to its substitute *æ*.

The *i*-umlaut of *a* is *ę* (m. f. w.).

Before nasals, especially in Anglian dialects, *a* was rounded into *ǫ*. Both letters were however written, although later on, the *a*-sound seems to have prevailed in West Saxon. *o* remains in unstressed words like *on* (cp. *of*, with *o* before following lip consonant).

æ replaces *a* in close syllables before a group of consonants, and before final consonants (save *m*, *n*, *h*, *w*).

There are exceptions such as *habban* 'have,' *assa* 'ass,' *ac* 'but.' Analogy conserves *a* in the imperatives of certain strong verbs, e.g. *far* 'go,' *sac* 'dispute.'

æ is sometimes written for umlaut *e*.

In open syllables *æ* may occur in syllables that were originally close—*æcer* (Goth. *acrs*); in syllables followed by an *e* that is original, and not weakened from *a*, *o*, or *u*—*dæges*, gen. of *dæg*; or even in syllables followed by an unoriginal *e*, if that *e* is (or was) in its turn followed by a syllable containing *i*—*æðeling* 'noble.'

æ is also a dialectic variation for the *a* and *ea* of other dialects—Mercian *dægas* (W.S. *dagas*), North. *ærc* (W.S. *earc*), North. and Mercian *gesæh* 'saw' (W.S. *geseah*).

ea is the breaking of *a*. This result is given before final *h*, and *h* followed by a consonant (*x* equalling *hs*), before *r* followed by a consonant, and often before *l* followed by a consonant. In this last case *a* is common enough in older texts, and occurs in Mercian — Mercian *fallan* (W.S. *feallan*).

ea sometimes occurs for *a* in poetry and dialect, when the following syllable contains *u* (*o*), e.g. *cearu* 'care,' *geatu*, plu. of *gæt* 'gate.'

ea is also a dialectic variation for *eo*.

In the *ea* that follows the palatals *g*, *c*, *sc* (*geaf*, *ceaster*, *sceal*) the *e* is a graphic means of indicating the preceding palatalisation. The vowel is really *a*.

A.S. *a* was the low-back-wide, *æ* the low-front-wide, *ǫ* the low-back-wide-round, and *ea* low-front-wide + low-back-wide.

In Middle English A.S. *æ* and *ea* were levelled under *æ*. This sound was written *e* (*ea*), but retained its former value

(l. f. w.). Later on it was very widely changed into *a*, but survived in the Kentish dialect.

ǫ was pretty generally unrounded to *a* in Middle English, but appears in certain words where the sound had been group-lengthened. Notice also *from*, *of*, and *on.*

The *a* of Middle English, representing A.S. *a*, *æ*, *ea*, an Anglian *a* that had not undergone breaking, and certain shortenings of A.S. *ǣ* (*ēa*, *ā*), passed early in the Modern English period into (æ).

The lengthened *a* of Middle English gives of course (**ei**) in Modern English. The passage has been through fronting, raising, narrowing, and diphthongisation, with divergence of first element.

The influence of neighbouring sounds, parasitic development, dialectic survival, the action of analogy, and special modern lengthenings have all contributed to produce various results. These factors of change are seen at work in the following examples :—

A.S. a (æ, ǫ, ea).

ɐ	ongemang (ǫ)	amang, among	among
	mangere (ǫ)	-monger	monger
	cwæð	cwað	quoth
ə	-weard	-ward	-ward
i	tæppet	tipet, tepet	tippet
	prættig	prati, pretie	pretty
ə	gedæft	daft, deft	deft
	ðanon	þanene, þannes, thennes	thence
	tōgædre	togadere, togedere	together
	manig (ǫ)	mani, moni, meni	many
	sægde	saide, seide	said

æ	arwe	ar(e)we	arrow
	arn	ran	ran
	mann (ǫ)	man, mon	man
	hlanc (ǫ)	lank	lank
	hand (ǫ)	hand, hoonde	hand
	sang (ǫ) vb.	sang, song	sang
	mæsse	masse, messe	mass
	spearwa	sparwe	sparrow
ɒ	healfter	halter	halter
	walwian	walwen	wallow
	wandrian	wandrien	wander
	wæs	was	was
	sang (ǫ) n.	song, sang	song
	lang (ǫ)	long, lang	long
	(be)gæt	(bi)gat	got
əə	fearn	ferne	fern
	(ge)earnian	ernen	earn
ai	meahte, mæhte	mahte, mihte	might
ei	ealu	ale	ale
	dæl	dale	dale
	scalu 'land'	skale, schale, scole	scale
	baðian	baþen	bathe
	lator	later	later
	gæf	ȝaf, gaf	gave
	bæd	bad, bade	bade
	wæstm	wastme, westm, wast	waist
	hægl, hagol	hail	hail
	slægen	slagen, slaine	slain
	slēan (sleahan)	sleen	slay
	mæg	mai, mei	may
	eahta	ahte, eihte	eight

ou	eald, ald	ald, old	old
	tealde, talde	talde, tolde	told
	camb (ǫ)	camb, combe, coomb	comb
	bræc	brak	(brake) broke
uu	wamb (ǫ)	wambe, wombe	womb
iə	gearwe pl.	gere	gear
	beard	berd	beard
äə	hara	hare	hare
	bær adj.	bare	bare
	sneare	snare	snare
	dearr	dar	dare
aa	hærfest	hervest	harvest
	mearc	merke	mark
	earun	aren, are	are
	hraðor	raðer	rather
	pæð	pað	path
	castel	castel	castle
	græs	gres, gras	grass
	healf, half	half	half
	ælmesse	almess	alms
	hleahtor	lahter	laughter
ɔɔ	wearm	warm	warm
	wæter	water	water
	eall	all, al	all
	bær	bar, bare	(bare) bore
	balc ‘ beam ’	balke	baulk
	slęaht	slahter	slaughter
	awel	awel	awl
	(ge)sæh	sagh, saugh	saw
	sagu ‘ dictum ’	sawe	saw
	dragan	dragen	draw
	hafoc	havek, hauk	hawk
	feaht, fæht	faht, fauht	fought

among—The (ɐ) of the present language postulates a Middle English *u*-sound. From this sound it developed through un-rounding and lowering. There is some authority for a *u*-form to *among*. Compare *lung* and *sung* n., West Midland forms for *long*, *song*. *among*, like these, had had its vowel group-lengthened into *o*.

Before *ng* (and *mb*) this lengthening was taken off, and the *o* followed the development of M.E. *o*. This was an open sound; the A.S. *o* had been close.

quoth—The *a* of *cwað* was labialised by the *w* into *o*. The unemphatic form would end in a sonant *th*. This was naturally stopped into *d*. *quoth* is a compromise between *quath* and *quod*. There are other two pronunciations of this word, one like *froth*, the other like *both*. Of these the latter is stictly analogical.

-ward—This has weak ending with obscure vowel. *ward* n. has sound (ɔɔ).

tippet—The *i* of the M.E. form is anomalous. M.E. *pretie* with its shortening termination would resist lengthening and should have given mid-front-wide, a sound which it has in Scotch.

thennes is due to the analogy of *hennes* (A.S. *heonan*). *manig*, by analogy of *ǣnig*, became *mǣnig*. This, under the action of the back-shortening terminations, gave *mani meni* in Middle English. The modern *many* has the spelling of one form and the pronunciation of another. *saide* from *sægde* (late West Saxon *sǣde*) is regular. A.S. *ǣg* regularly gave *ęi*, and in the Ancren Riwle the form *seide* occurs. But as Orm, who usually has *a* for *æ*, writes *seȝȝde*, the *e* is probably got from the other forms of *sęcgan*. *ai* was also a common representation of *æg* in certain dialect-areas, and *saide* was the form handed on for development. When the M.E. *ai* had in the course of its development reached the stage of long mid-front-wide, shortening supervened, whence the modern (e). Many words suffered similar shortenings, as will be seen in due course, e.g., *head*, *bread*, *threat*, &c.

(æ) is the regular development. *sang*—Nasal preterites in *ng* usually develop their *a*-, other words their *o*- forms, e.g., *song* n.

halter—Early in the modern period a parasitic *u* was developed before *l*, and henceforward the *au*- development was followed. This has resulted in (ɔɔ), but in certain words shortening and widening took place, giving as result (ɑ). Compare *halt* and *salt*, *wallow*, *wander*, *was.* The *w* rounded the *a* into (ɑ). Lengthened *ā* resists any such action of the *w*, and develops regularly—*wave* (ei) M.E. *wauen*. *song*, *long* develop under *o*.

got—*gat* is the regular development. The past participle *geten* took *o*, on the analogy of *broken*, and this *o* spread to the preterite.

fern, *earn*—The modern (əə), associated with shortness, argues a reduction of the group-lengthening of these forms.

might—There was also a form *mihte* in late West Saxon. From this form, *might* (ai) is a regular development. The *h* passed into a breath-glide, and was merged into the preceding *i*, which thus took on length, and followed the development of long *i*.

(ei) is the sound into which lengthened *a* before consonant + vowel has ultimately passed. *scole*—This form may come from Norse *skāl*. Long *a* was rounded to *ǭ* in Middle English. *later*, with (**ei**), is a fresh creation with the vowel of *late*. M.E. *later* is legitimately represented by *latter*, for the M.E. form fortified with the back-shortening termination would resist lengthening. *gave* got its long vowel from the analogy of the long vowel of the preterite plu. *gēven* (M.E. *ȝawen*, levelled under vowel of singular, A.S. *g*(*e*)*āfon*), and of the past participle and infinitive, both of which acquired length in Middle English. Compare *brak broke*, and *bare bore*.

bade—The M.E. forms are *bad* sing., *beden* plu. Our *bade* with (æ) is regular, with (**ei**), it is an example of the levelling of the vowel of the singular under the vowel-length of the plural. The M.E. plu. *baden* would of itself, quite apart from the original vowel-length, take on the length that a vowel acquired in Middle English when followed by a consonant + vowel. M.E. *ā* gives (**ei**). There is the same alternation in *sat*, *sate*. Compare *gave*, *brake*, *bare*.

wastme wast like other words with *s* followed by a consonant would acquire the sound of (**ææ**) — see below under (**aa**)—early in the modern period and should in the natural course of things have been now pronounced with (**aa**). Compare *fast*, from A.S. *fæst*. Perhaps it is permissible to suppose that, in this word, the (**ææ**) sound was developed at a sufficiently early date to enable it to attach itself to the **ææ**'s that come from M.E. *ā*, and end in (**ei**), e.g., in *name*. It may be that the analogy of words with long vowel before *st* has given length. Compare for lengthening of short vowel before *st*, *yeast* (see A.S. **e**). *hail*, *slain*, *may* are regular. *ai* is a common representative of A.S. *æg* in

Middle English, and has through various stages passed in the present language into (**ei**). M.E. *ei* at an early date was levelled under *ai.* *sleen* should have given a vowel-sound like that in *deem*, but has imported *ai* and its sound from the participle.

eight—The Anglian is *æhta.* A glide-vowel has been developed before the *h*. Should have had same sound as *fought.*

old, *told*—The Anglian *ā* was rounded to *ǭ* in Middle English. This *ǭ* has now passed into (**ou**). But spellings such as *owld*, &c., prove that *l* had here, as usual, developed the parasite *u*. It makes no difference. *ǭu* and *ǭ* ran together in development.

comb—The *o*-form has given development, and seems to have retained its group-lengthened long vowel.

broke—The M.E. *brak*, *breken* (A.S. *bræc*, *brǣcon*), pt. sing. and plu., were the regular forms. In the North, the plural took on the vowel of the singular, while the singular vowel took on the length of the plural vowel, and conformed to the long vowel of the past participle and infinitive, The infinitive and past participle had acquired lengthening in Middle English by the operation of the principle that lengthens a vowel before a consonant + vowel. *broke* got its *o* from the past participle *brǭken* (A.S. *brocen*). Compare *spake* (A.S. *sp(r)æc* *sp(r)ǣcon*). *spoke* comes from a *spǭken*, by analogy of *brǭken.* The A.S. part. is *sprecen.*

womb—The group-lengthened *ǭ* was labialised by the *w* into *ō* and has followed the development of *ō* into (**uu**).

gere, *berd*—Long *e* before *r* regularly gives (**iə**). *hare*, &c.—Long *a* before *r* gives (**äə**).

dar—The *ā* is due to the analogy of the late M.E. preterite *bār* (see below).

hervest, *merke*—*r* changes *e* into *a*, a change which had taken place in Middle English. This action of *r* had a wider scope in Modern English, and was general before final *r*, and *r* + cons. The *a*'s (æ) thus got were subjected to the change that was then overtaking that letter, viz., lengthening to (ææ). This has passed to (aa) in the present language. The lengthening just mentioned took place before *r*, and *s* followed by consonants, and before *th*. Note also the lengthening in *chaff*, *shaft*, *craft* (A.S. *cæf*, *scæft*, *cræft*). Thus is explained the modern pronunciation of *harvest*, *mark*, *path*, *castle* (and *glass*). It may be mentioned that *hærfest* is one of the words where *æ* represents umlaut-*e* (*ę*). *are* presents the conditions for lengthening, and the vulgar pronunciation (äə) is really the regular one. The present pronunciation points to an unstressed *are*. *raðer*—In this word the back-shortening ending was sometimes operative, sometimes not. The first result gives (aa), the second (ei). Compare *later* and *latter* (see above). *half*, *laughter*—A *u* (not always written) has been developed before *l* and guttural *h*. This parasite was lost and the *a* went to (aa) through (æ,ææ). Previously the *l* in *half* had dropped out between its parasite and the succeeding consonant. For additional examples take *halve*, *calm*, *alms*.

answer (Wickliffe has *aunswere*)—In this word, after the analogy of Anglo-French, which wrote a lengthened nasal vowel before *n*, with *au*, a *u* was developed. This *au* has passed to (aa), without any intermediary. Of course French words in *au* take this development, e.g., *aunt* (and after its analogy *ant*). It is to be noticed that M.E. lengthened *a* does not pass to (**aa**) but to (**ei**).

warm—*ar* after *w* was rounded to (ɔɔ)—compare *dwarf* (see A.S. **e** (**eo**)). *water* has undergone the same development —compare *wallow* and *was* (see A.S. **a**). The M.E. *ā*, and the combination vowel + back consonant, are not subject to this rounding after *w*—*wax*, &c. *all*, *balk*—The *a* + parasitic *u* follows the development of *au*. This became a monophthong with sound (ɔ), which was broadened later on into (ɔɔ). *walk* (A.S. *wealcan*) has had the same development. Some of the other words in this list have either *au* in Middle English, or have developed a parasitic *u* before guttural *h*. *slaughter*—compare with *laughter* (see above). *draw*—*g* passes to *w* after guttural vowels (*a*, *o*, *u*), cp. *bow* (A.S. *boga*). *drag* is a Northern doublet. *hawk*—The *o* of the A.S. form was levelled under *e* in Middle English, and intervocalic *f* (a voiced letter) was written *v*. The *v* then passed to *w*, after that, followed compression. *fought*—There was a form with *au*, early in the Modern Period. Compare the spellings *nought* and *naught*, and *daughter*, with *ou* in Middle, and *au* in Modern English (see A.S. **o**). The *o* in *fought* doubtless comes from the part. *fohten*. *bore*—The M.E. *bar*, *bę̄ren* (A.S. *bær*, *bǣron*), pt. sing. and plu., were levelled to *bar*(*e*), *bāren* in the North. From this came our *bare*, the short vowel of the preterite sing. being levelled under the long vowel of the preterite plu., the past part., and the infinitive. The *o* of *bore* has been got from the past part. *bǭren* (A.S. *boren*). Compare *broke* and *brake*.

It would perhaps be well to notice the difference between *behave* (**ei**), and *have* (**æ**) (A.S. *habban*, *be-habban*, M.E.

behauen, *hauen*). *behave* underwent lengthening, *have* was unemphatic, and retained short *a*.

haven and *lathe* are said to derive from Norse *hǫfn* and *lǫð*. They are probably new singulars, made for the plural forms that came from the plurals *hafnir* and *laðar*. But there is also found an A.S. *hæfene*.

e(eo): There are two *e's* in Anglo-Saxon, original Teut. *e* (I.E.*e* (*i*) (Goth. *i*, *aí* (before *r* and *h*)), usually said to be close, and umlaut *e* (*ę*), resulting from *i*-umlaut of *a*, *o*, and *ǫ* (rounded *a* before nasals). Examples of both *e's* have been given in previous chapters.

e sometimes represents a reduction of the *ea* that results from breaking of *ea* followed by *l* + cons. and *r* + cons., or at times, the (*e*)*a* that followed the palatals *c*, *g*, *sc*.

In Anglian, *ea* before *rc*, *rg*, is smoothed to *e*.

In Kentish, *e* may represent *y*, the *i*-umlaut of *u*.

In the same dialect and in Mercian, *e* can take the place of W.S. *æ*.

e is also a common levelling for various vowels in unstressed syllables.

eo is the breaking of *e* before *h* + cons. (*x* = *hs*), and final *h*, before certain *l*-groups, and before *r* + cons. The breaking of *i* in similar circumstances is also represented by *eo* (*io*).

eo (Teut. *e* and *i*) has sometimes been got from the influence of the back vowel *u* in the succeeding syllable—*meodu* 'mead' (O.H.G. *metu*), *seolfor* 'silver' (O.H.G. *silabar*). A succeeding *o* or *a* has in certain words the same effect. In Mercian examples of this are to be met with—*beoran* and *eotan*, W.S. *beran* and *etan*.

There is also an *eo* that is got from Teut. *o* or *u* preceded by the palatal combination *sc*—*sc*(*e*)*op* 'poet' (O.H.G. *scoph*), *sc*(*e*)*ort* (O.H.G. *scurz*). Compare the *ea* of similar origin from Teut. *a*.

Teut. *j* + *o* (*u*) is sometimes expressed by *g*(*e*)*o*—*g*(*e*)*oc* 'yoke' (L. *jugum*).

In Anglian, *eo* before *rc*, *rg*, *rh*, is smoothed to *e*.

A.S. *e* was the mid-front-narrow, *eo* the same + mid-back-narrow-round, while *ę* was the mid-front-wide.

In Middle English, A.S. *e* and *ę* were both levelled under *ę* (m.f.w.) A.S. *eo* was smoothed into open *e*. This as a rule remains unchanged, but the influence of the surrounding sounds, and the operation of certain principles give many results in the present language. Lengthened *ę* or *e* before consonant + vowel, or before certain consonant-groups gives (**ii**).

A.S. **e** (**eo**).

i	sweostor (swuster, swyster)	suster, sister	sister
	ṣeox (siex, six)	sixe, sexe	six
	męngan	mengen	mingle
	hręddan	redden, ridden	rid
e	fęrian	ferien	ferry
	węlisc (wælisc)	walsh	Welsh
	geolu	ȝeolewe, yelwe	yellow
	ęlf, ælf	elf	elf
	leðer	lether	leather
	hęfig	heuy	heavy
	gęst, gæst	gest	guest
	geostran - daeg (gystra-)	ȝerstendai, ȝisterdai	yesterday
æ	tęrgan	terien, tarien	tarry
	ðerscan	þreschen, thresshe	thresh, thrash
	gemęcca, gemæcca	meche, mache	match
	eom, eam (Anglian)	eam, am	am

ɵɵ	ceorl	cherl, chorle, churle	churl
	beornan	bernen	burn
	eorl	erle	earl
	eorðe	erthe	earth
	leornian	lernen	learn
	sweorfan	swerven	swerve
	stęrne, styrne	sturne, stirne, sterne	stern
	heord	heerde, herd	herd
	weorð	wurth, worth	worth
	weorc	werk, worc	work
ai	reoht (ie, i)	riht, ryght	right
	feohtan	fihten, fiȝte	fight
	beorht	briht, briȝt	bright
aiɵ	teorian, tyrian	tiren	tire
ei	swęðian	swathen	swathe
	weg	wei, wey	way
	plegian	pleien	play
	lęcgan	leien	lay
	seg(e)l	seil	sail
	regen	rein	rain
	bregdan	breiden	braid
	ðegen	þein	thane
	brecan	breken	break
ou	geolca	ȝelke, ȝolke	yolk
ii	stelan	stelen	steal
	węnian	wenen	wean
	gest (gist)	ȝeest	yeast
	seolh	sele	seal
	reopan (rīpan ?)	repen	reap
	peosan (io) plu.	pese, pesen plu.	pease
	veik (Norse)	weik, waik	weak
	sprecan	speken	speak
	sceld	scheeld, sheld	shield
	(ge)węldan	welden	wield
	efen	euen	even
	feoh	fee, fe	fee

uu	stręwian	strewen, strawen	strew, straw
yuu	eowu	ewe	ewe
	ęfete	euete, ewte	newt
iə	spere	spere	spear
	męre	mere	mere
ȧə	swęrian	sweren, swerien	swear
	męre	mere, mare	mare
	leger	leir	lair
	ðeira gen. (Norse)	þeire, thair	their
aa	heorot	hert	hart
	męrran	merren, marren	mar
	bęrn	berne	barn
	heorð	herth	hearth
	hlęhhan	lauhen	laugh
ɔɔ	dweorg	dwergh, dwerf	dwarf
	sweord (u, o)	swerd, sword	sword
	geonian, gānian	ȝenien, ganien, gonen	yawn

suster.—The *u* was *ü*, or *u*, as a spelling with *o* shews. *sister*—This spelling shows the unrounding of A.S. *y* into *i*. *siex*, *six*—These forms are due to palatal umlaut of *eo*.

mingle, *rid*—The raising to *i* is seen in many words *link*, *English*, *singe*, *string*, *kill* (A.S. *hlęnce*, *ęnglisc*, *sęngan*, *stręng*, *cwęllan*).

ferien, &c.—This is the regular change into (**e**).

walsh—The *a* for *e* is perhaps got from *Wealh*, 'a Welshman,' which would give *a* in Middle English. This word however had long *ea* when *h* was dropped in declension before a vowel. *wælisc*, where *æ* has its occasional function of representing umlaut-*e*, might so far as the spelling is concerned, have given *a* in Middle English. The proper name *Walsh* preserves the *a*.

yelwe—*w* occurred in *geolu* in the oblique cases before a vowel. *elf*—There also occurs a M.E. form *alfe.* From the long open *o*, produced by influence of Norse *ālfr*, has been developed *oaf* (**ou**). *lether* has the back-shortening termination which often prevents lengthening before consonant + vowel, but the *ea* of *leather* points to long open *e.* This would be shortened in modern times as in the case of *health*, *heavy*, &c.

guest—The *gu* after the French fashion indicated guttural hardness. *ȝerstendai*—The *r* has backed into the previous syllable. *gystra* accounts for the *i* of the other M.E. form.

tarien—In late Middle English, *r* had broadened *e* to *a* in certain words. The influence of *r* in Modern English increased. Words with *er* followed by a vowel, as was the case with the M.E. forms of *harry* and *tarry*, were spared, but outside of these, the change was very general, save in *her*, which, being weak, has passed into (**əə**), through (**ɐ**), and (**ɐə**).

This broadening often took place before two consonants. The *a* was in this position subject to the lengthening that ultimately gave (**aa**) (see above under *harvest*, and below under *hart*).

thrash—The change of *e* into *a* (**æ**) is due to the influence of the *r*. For the metathesis compare *fersc* and *fresh.* The *r* originally preceded *e.* *mache* gives *match*, and is itself got from *gemæcca*, where the *æ*, though representing umlaut-*e*, has followed the usual course of *æ.* *eam*, *am*—The form *eom* (for *im*, cp. Goth *im*) is due to the influence of the form *eorun*, where the *eo* is due to *u*-umlaut. *eo*, when unemphatic, tended through unrounding of second element to *ea.* The *eam* thus got, under the influence of waning stress, shifted its strength to the second. The first element then sloughed off, leaving *a.*

Many of the words with (əə), where the conditions were present (*r* or *l* followed by voiced consonants), suffered group-lengthening in Middle English. The presence of *ea* is a proof of the long open *e*-sound. These dropped length in the Modern Period, for (əə) is got from short vowels (*ir*, *er*, *ur*). *burn*—The *ur* may be got either from the *ur*-forms of the Anglo-Saxon, viz., the pret. plu., or the past participle, or from the labialising influence of *b* on *eo*, or, it may be, from late *byrnan*. Compare for *ur* and metathesis, *burst* (A.S. *berstan*, *burston* pret. plu.). Originally *r* came after *b* in this verb. In *weorð* and *weorc* the *w* would produce a *u*-sound.

reoht, *feohtan*—Palatal umlaut gives the *ie i*, whence the M.E. forms. The (ai) was got in the usual way. The *h* was merged into a glide, which, joined with the preceding vowel, gave long *i*, whence (ai). *briht*—Palatal *h* changed the *e* of *breht* into *i*. Note the metathesis, the converse of what usually takes place. The original position of the *r* is beside the *h*.

tire—This word would follow the analogy of the many longs in *-ire*, e.g., *hire*, &c. Contrast *stir* (A.S. *styrian*).

swathen—The *a* for *e* comes from the noun, A.S. *swaðu*, M.E. *swathe* 'track.' *weg*, &c.—A.S. *eg* and *ęg* regularly, by vocalisation of *g*, give *ei* in Middle English. The spellings *ei* and *ai* (A.S. *æg*) were however confused in late Middle English and Modern English. Hence the *ai* and *ay* of the modern words.

lęcgan—The *ęg*-forms of this word would give *ei*. *thane*—This spelling occurs in the Alliterative Poems. The *ā* in *swathen* before cons. + vowel, and M.E. *ei*, give alike in Modern English the result (ei). *break*—The long close *e*, into which lengthened *e* had passed, was retained by *r*. A pronunciation with **(ii)** is on record. Compare *great* (see A.S. ēa). For *yolk* from *g*(*e*)*olca*, compare *yoke* from *g*(*e*)*oc* (M.E. *yok*(*e*)), the one due to parasitic *ou*, the other to lengthening of *o* into long open *o* before consonant + vowel. Both these effects give **(ou)**. *ʒelke* represents the common smoothing of the *eo*.

stelen, &c.—Many of these words acquired their present sound from lengthening. *yeast* must have got associated with some words that exhibit length before *st*, e.g. *least*, *east*. Compare *beast* and *feast* with an original short *e*. A short sound for *yeast* is also on record. *seolh* and *feoh* would in the oblique cases, on the dropping of *h* before a vowel, have *ēo*. *weak*—The long open *e* that came from *ei*, at the beginning of the Modern Period, seems to have got mixed with the long open *e* that came from M.E. *ę̄*, and to have followed its development. Or there may have been a form *wǣc*, a variant of A.S. *wāc* 'weak.' *ǣ* gives **(ii)** in Modern English. *speak*—In late West Saxon there was a form *specan*. *shield*, *wield*—The long vowel is due to group-lengthening. *ie* was sometimes employed in Middle English to represent the long close *e*. *even*—The back-shortening termination was here inoperative.

strewen, &c.—The *e* probably became long in Middle English (before cons. + vowel). *eu* gave **(yuu)**, through various intermediates, with shifting of stress on to second element, and consonantisation of first element. The *y* was dropped after certain letters *r*, *l* (not always), &c. Cockneys and Yankees drop it more widely. *ewte*—For vocalisation of *f* compare M.E. *hauk* (A.S. *hafoc*). *newt*—The *n* is due to combinations with the indefinite article *an*. Perhaps the *n*-sound was repeated initially before the succeeding vowel, securing attachment in certain cases. Compare *nuncle, nugget.* With regard to M.E. *strawen*, it may come from an A.S. variant with *æ* for umlaut-*e*—cp. *match.*

spere, mere—*ę̄r* (vowel lengthened before consonant + vowel) gives (iə) and also (äə). *mare*—The *a* is got from A.S. *mearh* 'horse.' *lair* exhibits confusion between *ei* and *ai. their* derives from Norse *þeira*, gen. plu. of pers. pron. (but originally demonstrative). The forms of the demonstrative plural, had, owing to confusion between the singular and plural forms of the personal pronoun, begun to come into use. The usage received impetus, and the demonstrative forms colouring, from the Norse. *þā, þǣm, þāra* were coloured by *þeir* (-*r* = plu. suffix), *þeim, þeira*, into *þei, þeim, þeire.* The standard dialect admitted *þei*, but still used the personal forms *here, hire, hir*, for genitive, and *hem*, for dat. and acc. *them* has the vowel of *hem*, and the consonant of the demonstrative. *þā* was of course the A.S. plural of the demonstrative (M.E. *þǭ*). *eir* (*air*) gives (äə) in the present language.

hart—The *e* of the M.E. form was broadened to *a* by the *r*, then suffered the lengthening that *a* underwent before *r* followed by a consonant. The ææ thus got, has passed regularly to (aa). So with *mar* and *barn. barn* did not undergo group-lengthening. The spelling of *hearth* shews that it was subjected to lengthening. This lengthening was reduced or perhaps not constant. Then followed the same changes as in *hart.* The words that exhibit this reduced group-lengthening before *r* such as *earl, earn*, &c., have usually (əə) in the present language. These doubtless kept the lengthening longer. In *heart* the reason of the *ea* is not quite obvious. The word does not present the conditions for group-lengthening. Sweet says that the *ea* 'may be a mere orthographic compromise between *hert* and *hart.*' *lauhen*—The *a* may have come from an A.S. variant in *æ*, or may have been imported from the noun *hleahtor*. The developed *u* has had no influence on the result. Compare *laughter* (see A.S. a).

dwerf—The *e* was broadened by the *r* into *a*, and rounded (after passing to (aa), through lengthened æ) by the *w* into (aa). *swerd, sword.*—Both were group-lengthened. Tyndale writes *sweard* (long open *e*), a pronunciation, which, perhaps shortened to the sound of *herd*, and with the *r* trilled; is not yet gone. In the second form, the group-lengthened *o* (*ō*), that came down from Anglian, should remain close *o*, and follow its development. And this is so. Long *u* (the usual development of M.E. *ō*) is given as its pronunciation in the phonetic authorities of the Modern Period. It also suffered shortening, and passed quite regularly to (ɐ). Long *u* before *r*, carried to its usual development, should have given the sound heard in *moor* (uə), but seems, as in the case of *floor* (A.S. *flōr*), to have been broadened to (ɔɔ). Compare *board.*

yawn—A.S. *gānian* would give *ǭ* in Middle English. This seems to have been kept and narrowed as in the case of *broad* (see A.S. ā). With regard to the spelling it is to be noticed that *aw* has the phonetic value (ɔɔ), and that a form with *a* existed in Middle English. *ȝenien* represents a smoothing of A.S. *eo.*

i: A.S. *i* corresponds to Teut. *i* (Goth. *aí* before *r* and *h*). This represents I.E. *i*, and before nasal followed by consonant, &c., I.E. *e.*

Teut. *i* in certain words may represent I.E. *ē*—*wind* (L. *ventus*, I.E. *u̯ēnto-*).

Before nasals, A.S. *i* may correspond to Teut. *e* (I.E. *e*)—*niman* (O.H.G. *neman*). But these facts have been put down in a previous chapter (page 27).

There is also an umlaut-*i* in Anglo-Saxon. It has various functions, representing (1) *y*, *i*-umlaut of *u*, before *c*, *g*, *h* (2) *ie*, palatal umlaut of *eo* (breaking of *e*), before *ht*—*riht* (*reoht*, *rieht*), or *ie*, *i*-umlaut of the *eo* that may come from original *j* + *u*—*gingra* (*giengra*), comp. of *geong* (3) *ię*, palatal umlaut of *ea* (breaking of *a*) before *ht*—*niht* (*neaht*), or *ię*, *i*-umlaut of *ea* (breaking of *a*)—*ildo* (*ięldu*, O.H.G. *altī*, *elti*), or *ię*, *i*-umlaut of (*e*)*a* (palatal umlaut of *a*—*scięppan* (Goth. *skapjan*), weak vb., from *sceapan* ((*e*)*a*).

In unstressed syllables *i* may represent older *ī*.

A.S. *i* was the high-front-narrow.

A.S. *i* remains in Middle English. M.E. *i* also represents the unrounded A.S. *y*. It (like *u*) is not subject to the lengthening which M.E. vowels take on before cons. + vowel, but it suffers group-lengthening.

Modern *i* has become wide. There were two *i's* at the beginning of the Modern Period, a narrow *i* and a wide *i*.

A.S. **i**.

ɐ	micel, mycel	muche, moche	much
	risc (rysc)	rusche, rische	rush
	cwidu	cude	cud
i	bill 'ensis'	bil	bill
	fiðele	fiðele, fidylle	fiddle
	seol(o)c (silcen adj.)	selke, silke	silk
	sife	siue	sieve
e	gise	yis	yes

əə	hire, hyre	hire, hure, here	her
	cirice, cyrc	chirche, churche, cherche	church
	birce	birche	birch
	ðrittig	þritty, þretty, þerty	thirty
	bridd	brid, byrde	bird
ai	cild	child	child
	behindan	behinde	behind
	ic	ic, ich, ih, ig, i, y	I
	pliht	pliht	plight
	nigon	niȝen, nin	nine
	stigu	stie, stye, sti	sty
əi	(ge)wihte	wyght, weight	weight
ii	wifel	wiuel, weuel	weevil
	wicu, wucu	wike, wuke, weke	week
		þise, þese	these

muche—This form is due to an A.S. *mycel*, got by the analogy of *lytel*. The *ü* was made into *u* by the initial labial. The *o* of *moche* denotes the *u*-sound (see under **u**) The forms *muchel* and *mochel* also occur in Middle English —cp. Scotch *muckle*. M.E. *u* has passed to (**ɐ**) through unrounding and lowering. *rusche* comes from a variant *rysc*. *cude*—The *wi* of A.S. *cwidu* would naturally give a *u*—cp. the A.S. variants *widu* and *wudu* 'wood' (see under **u**). *quid* is the regular development. *fiddle*—ð is often replaced by *d* in Modern English, chiefly in the neighbourhood of *r* and *l*—cp. *murder* and *rudder* (A.S. *morðor*, *roðor*). We have the usual doubling of consonants to indicate shortness of vowel. *seolc* (*eo*, *u*-umlaut of *i*) would give M.E. *selke*. Development has followed the *i*-sound. The *i* in *silcen* is a reproduction of the original vowel by *i*-umlaut of *eo* (through *ie*). *sieve*—The *ie* is perhaps due to a wish to avoid the characterless spelling of *siue*.

yes—The *e* is due to a dislike to the conjunction of the cognate consonantal and vocalic sounds of *y* and *i* in *yis*, the Middle English and Early Modern form. Compare *yet* (M.E. *yit*, A.S. *git*).

here—The lowering of *i* to *e* is due to lack of stress. *er* (*ir*) in the present language gives (əə). *hure* derives from *hyre*. *churche* comes from *cyrc*. From this comes the modern word. *ur* also gives (əə). *cherche* is Kentish, a dialect in which *e* appears for A.S. *y*. *þretty*—Some of the related numerals have *eo*. This would give *e*. *third*, *thirteen*, and *thirty* have suffered the same transposition—cp. *bird*. *byrde*—*y* was written for *i* in late Middle English. *child*, *behind* get their sound from a group-lengthened *i*.

Long *i* gives (ai). *I*—*c* in Anglo-Saxon was often fronted after front vowel. This helped by waning stress would give M.E. *ich*. Northumbrian in unstressed positions has *ih*, compare *saegdig* 'said I.' Consonants were dropped in unaccented monosyllables. Hence the weak *ī* and the modern sound. *pliht*—*h* was weakened into a glide which coalesced with *i* and produced *ī*. A similar explanation holds for *stye* and *nine*. Some authorities give A.S. *stīgu*. M.E. *nin* was inflected when used without a noun, and written *nine* with plural ending.

weight—The *ei* has come from *wegan* 'to weigh,' where it was got from vocalisation of *g* after palatal *e*.

wewel—The *e* is said to be due to the analogy of *wefan*. *weke*—Ettmüller quotes an A.S. *weoce* (see A.S. u), which would yield *weke*. *e* can take on the lengthening that is got in the sequence of cons. + vowel. Long *e* gives (ii) in the present language. *þese* gives *these*. It is a weak form of *þise*. The *e* is the plural ending. A new plural was formed by adding *e* to *þis*, nom. sing. n. after the old plural *þę̄s* (A.S. *þās*) had gone out of use.

In speaking above of *much* it would have been well to have compared *such*. The A.S. form is *swylc* (*swilc*, *swelc*). M.E. forms are *swilc*, *swich*, *swuch*, *soche*. For the passage between *wi* and *u* compare A.S. *cwidu*, M.E. *cude*. The *ch* of the M.E. forms is noticeable. The *c* of Anglo-Saxon was possibly fronted before the *e* of the oblique cases, or the *ch* may be due to want of stress. At any rate a similar *ch* appears in certain pronominal words—*hwich*, *ech* (A.S. *hwilc*, *ǣlc*). The vulgar pronunciation of *such* still preserves the memory of the M.E. forms that had completely unrounded the A.S. *y*.

o : A.S. *o* (close) corresponds to Teut. *u* (*o*) (O.H.G. *o* and *u*, Goth. *u*, *aú* (before *r* and *h*), I.E. *u*).

The prefix represented by Goth. *us-*, O.H.G. *ur-*, appears in Anglo-Saxon as *or-* —*orsorg* 'careless' (O.H.G. *ursurgi*).

Dialectically (Northumbrian), after *w*, *o* stands for *eo*, the breaking of *e*—*worc* (*weorc*), and for *eo*, the *u*-umlaut of *e*—*worold* (*weoruld*).

Final *o* may represent the *u* (vocalised *w*) of the nominative of *wo-* stems—*searo* (also *u*) 'armour' gen. *searwes*, also another *u* (Teut. *ī*), in words like *ildo* (*u*) '*age*' (*ię̄ldu*, O.H.G., *altī*, *ęltī*). The breaking *ea* in unstressed syllables may be represented by *o*—*hlāford* (*hlāf*, *weard*). Long *a* (Teut. *ai*) may be similarly represented—*ēorod* 'troop' (*eoh* 'horse,' *rād* 'riding').

Teut. *-unþ* may pass through *-ūð* into *-oð* (also *uð*)—*geoguð* 'youth' (O.H.G. *jugund*). So may Teut. *-anþ* through *-ǫnð*, *-ōð*.

And *o* may be developed before a final liquid—*fugol* 'fowl' (Goth. *fugls*), *hlūtor* 'pure' (Goth. *hlūtrs*).

The *or* and *ol* that represent I.E. *r̥* and *l̥* have already been alluded to (pages 64 and 66).

The *ǫ* (open) from orig. *a* has been spoken of under *a*.

A.S. *o* was the mid-back-narrow-round.

The sound was widened in Middle English. It remained for some time in Modern English, but was at length lowered to present sound. It was also changed at a later date into (ɔɔ) before certain consonants, viz., *s*, *th*, in fact, before the same following that lengthened *æ* (page 214).

Lengthened before a consonant + vowel it gives (**ou**)—*nose* (A.S. *nosu*), like the long open *o* (*ǭ*) that came from A.S. *ā*, e.g., *home* (A.S. *hām*).

The lengthenings of Anglian *o* before certain consonant-groups (*rd*, *ld*, &c.) are maintained with restrictions (page 200). They are naturally handed down into Middle English with close *ō*, and keep by it, but at the *uur* stage (see under **ō**), the sound is broadened into (ɔɔ). Compare A.S. *flōr* into *floor* (ɔɔ). Compare also *sword* (page 224) and *word* (see next list). Some words, however, like *board* and *hoard* (A.S. *bord* and *hord*), seem, judging from the *oa*, to have acquired a long open *o*-sound. *gold* came down into Middle English with group-lengthened close *ō*. This regularly gives long *u*, a pronunciation in vogue last century. A parasitic *u* added to *o* accounts for the modern pronunciation.

For **ou** from *ol* see under ā.

A.S. **o.**

scofel	schouel	shovel
ofen	ouen	often
floterian	floteren	flutter

ə	copor	coper	copper
	ðonne	þan, þen	than
ɵ	wolcen	welkne	welkin
	ðonne, ðænne	þan, þen	then
u	scolde	scholde, schulde	should
	wolde	wolde, wolde	would
ɒ	morgen	morwen	morrow
	hole(g)n	holi	holly
	docce	dokke	dock
	oxa	oxe	ox
	god	god	god
	bodig	bodi	body
	(an), on	(a), on, o	on
əə	word	worde	word
	woruld, weoruld	world, wereld, wurld	world
	spora, spura	spure	spur
	morðor n.	morther	murder
ou	hol	hole	hole
	cnoll	knol	knoll
	folc	folc	folk
	geoc	ȝok, yok	yoke
	ceocian	choken, cheken	choke
	ofer	ouer	over
	fola	fole	foal
	molde n.	molde	mould
	flogen	flowen	flown
	bolla	bolle	bowl
ɔə	scorn	sc(h)ore	score
	beforan, biforan	befor, bifore	before
ɔɔ	sworen	sworen	sworn
	forð	forth	forth
	broð	broth	broth
	frost	frost	frost

bord	bord	board
cohhęttan	coughen	cough
trog, troh	trogh, trough	trough
bohte	bohte, bouhte	bought
dohtor	dohter, douȝter	daughter

shovel, &c. — The sound (ɐ) argues a previous short *u*. This sound these words may have acquired by association with the *o*, that was a graphic device for *u* before consonantal *u*. The verb *shove* (A.S. *scūfan* with shortening of *u* in M.E.) has (ɐ), and may have influenced *shovel*. All these words had back-shortening syllables and resisted lengthening. Compare for the development *among*.

copper, *than*—The vowel of unstrest syllables and unstrest words naturally becomes the obscure (ə).

welkin—Owing to association (*weo*'s sometimes become *wo*'s, cp. *woruld*, for *weoruld*) the spellings *weo* and *wo* get mixed. M.E. *welkne* acquired its *e* from the smoothing of a form beginning with *weo*. *then* derives from the late W.S. *ðænne*.

scholde, *wolde* — These occur with short vowel in the Ormulum, in spite of the group-lengthener *ld*. Diminished stress will explain this. Afterwards both acquired a *u*-form, *scholde* from the plural *schulen* (A.S. *sculon*), or from the infinitive, and *wolde* from the rounding effect of the *w* on *o*. This *u* was lengthened before *ld*. Lack of stress induced shortening. In weak positions *l* was dropped, and the *l*-less forms have prevailed.

morwen, &c., develop *o* in the usual way. *holi*, *bodi*—The back-shortening terminations prevented lengthening.

word—The (əə) argues a shortening of the long *u* that came from M.E. *ō* (from group-lengthened Anglian *o*).

So with *world*. *ur* gives (əə)—*wereld* represents the usual smoothing. *murder*—The *u* comes from the verb *myrðran.*

hole—Lengthened *o* became (ou). So did parasitic *ou*, as in *folk* and *bowl.* A parasitic *u* was developed between *o* and *l*, just as between *a* and *l*, and not always written. *yoke*, *choke.*—In *geoc* and *ceocian*, the *e* is used diacritically to indicate palatalisation of the preceding consonant. The developing vowel will then be *o.* But we have also on record *cheken*, got from usual smoothing of the *eo.* Compare *chese*, from *cēosan.*

ouer—This word underwent lengthening. The back-shortening ending was inoperative. *molde* was group-lengthened, but the present sound is due to development of parasitic *u.* *flogen*—*og* into *ou*, with usual result.

score, *before*, *sworen*—The *o* was lengthened before cons. + vowel. Long open *o* + *r* gives (ɔə) or (ɔɔ). *forth*, *frost*, *broth*—These have lengthened *o* into (ɔɔ). Contrast *post* 'stake,' with (ou). It has taken after the Romance *post.* *bord*, group-lengthened, with usual change of long open *o* into (ɔɔ) before *r.* See page 229. *trog*—Open *g*, when final, was unvoiced in late West-Saxon. The *u* that was developed before the *gh* in *cough*, *trough*, *bought*, had no influence on the development. The *o* followed pretty much the usual course to (ɔɔ). Compare for neglect of *u* and lengthening—*laughter* (see page 214). *daughter* had the same development, but is spelt with *au* on the model of words like *slaughter* (see page 215). Compare the two spellings *naught* and *nought.* These different spellings of the same word have been utilised. *fought* also once had a variant *faught* (see page 215). *au* and *o*(*u*) have the same development before *h.*

Another example of *o* into (ɐ) is A.S. *dol*, M.E. *dul*, Mod. E. *dull*. Perhaps the influence of Norse *dul* 'conceit' may have brought in *u*. Another example is given by Sweet, viz., *tug*, from A.S. *togian*. With regard to *oven* and *shovel*, is it not possible that the *ou* of the spelling would suggest the pronunciation of long *u*. This may afterwards have been shortened, before the passage to (ɐ). In the case of *hovel*, the pronunciation seems to have fluctuated between (ɐ) and (ɒ). The former is still often heard.

u: A.S. *u* corresponds to Teut. *u*—*sunu* (Goth, *sunus*).

After *w*, *u* represents (1) *eo*, the breaking of *e*—*swurd* (*sweord*) (2) *eo* (*io*), the breaking of *i*—*wuht* (*wiht*) 'thing' (3) *eo* (*io*) the *u*-umlaut of *i*—*wudu* (*wiodu*, *widu*) 'wood' (4) an *eo*, due to the action of *w* on *e*—*swustor* (*sweostor*, O.H.G. *swester*). *u* also occurs for *wu* = *wi* (Teut. *we*) in *cuman* = *cwiman* (O.H.G. *queman*)—cp. *uht* for *wuht*.

Some of the uses of *u* in unstressed syllables are worth recording. It may stand for *ēa*—*fultum* 'help' (*fultēam*). In Northumbrian *u* (*w*) stands for *ēo*(*w*)—*lāruw* 'teacher' (*lārēow*—*lār* 'learning,' *ðēow* 'servant').

Final *u* may represent (1) I.E. *ā* (Teut. *ō*, O.H.G. *u*)—*giefu* 'gift'—compare the *ā* of the *ā*-declension (2) I.E. *m̥* (Teut. *um*)—*hnitu* acc. sing. 'nit' (Gk. *ϰονίδα*) (3) I.E. *ō*, in the Mercian pres. tense of verbs—*beoru* (L. *ferō*), W.S. *bere*. And *u* may be developed before a final nasal—*māðum* 'treasure' (Goth. *máiþms* 'gift').

The *un* and *um*, *ur* and *ul* that represent I.E. *n̥*, *m̥*, *r̥*, *l̥*, have been spoken of in a previous chapter—*genumen* (O.H.G. *ginoman*), *wulf* (O.H.G. *wolf*).

A.S. *u* was the high-back-narrow-round.

In Middle English the A.S. *u* retained its sound, but in the Modern Period was unrounded, and then lowered to (ɐ). In many words where the sound under change was flanked by a lip-consonant and *l*, a letter with a strong affinity for *u*, the *u*-sound was brought back, e.g., in *full*, *pull*, &c. An initial *w* also tended to conserve the *u*-sound. In some words the passage to (ɐ) had been accomplished, and this sound may still be heard in certain pronunciations of *butcher*, *woman*, &c.

In Middle English, *u* was often written as *o*, especially beside consonants with outlines resembling those of *u*, viz., *n*, *m*, *u* (consonantal), and before a cons. + vowel, seeing that this is a position often occupied by Fr. *u*, and suggestive of it. In Middle English, *u*, like *i*, was not subject to lengthening before a cons. + vowel, but was liable to group-lengthening.

A.S. **u**.

ɐ	urnen, pret. part	urnen	run
	furh	furgh, forwe	furrow
	þurh	þurgh, þuruh, thorou	thorough
	lufu	lufe, loue	love
	sunu	sune, sone	son
ɵ	bulluck	bullok	bullock
	uppan	uppon, upon	upon
u	wulle	wolle	wool
	wudu	wude, wode	wood
	wulf	wlf, wolf	wolf
	full	ful, fol	full
ɵɵ	furðor	furðer	further
	curs	curs, cors	curse
au	druncnian	drunknen, drounen	drown
	hund	hund, hound	hound
	sugu	suwe	sow

ou	culter	culter, coltre	coulter
	gewunod	iwuned, iwoned	wont
uu	wund	wounde	wound
	ðurh	thrugh	through
aa	furðor	ferther	farther
ɔɔ	duru	dure, dore	door
	murnan	murnen, mornen, mournen	mourn

run—The infinitive may get its vowel from the participle *urnen.* Or the *u* may have been got from the late W.S. *yrnan* through *ürnen.* The regular infinitive would be, and is dialectically, *rin* (A.S. *irnan*). For the transposition in the various forms of this verb compare *burn* (A.S. *byrnan*, Teut. *brinnan*) (see also page 221). *þuruh* gives regularly *thorough*—cp. *borough*, A.S. *burh*, M.E. *bureh.* For the *o*-forms see above.

bullock (second syllable), *upon*—In unstrest syllables and unstressed words (ə) is a natural enough termination for (ɐ).

wóol, *bullock* (first syllable), &c.—These are examples of the retention of the *u*-sound, referred to above. The spelling *oo* has probably been adopted as more suggestive than the single *o*, which is usually associated with the sound of *o* in *god.* *wlf*—*w* contraction for *wu.*

further—*ur* gives (əə)—compare below, *farther.*

drounen—The long *u*, evidenced by *ou*, is due to compensation for loss of *k*, and has followed the development of long *u.* *hound*—group-lengthened to *ū.* *sugu*—After *u*, *g* became *w* and then coalesced with *u*, giving *ū*, whence (au).

coulter—A *u* has been developed before the *l*, and the *o*(*u*)*l*-development followed, as in *bowl* (A.S. *bolla*). Compare *shoulder* (A.S. *sculdor*). *wont*—The regular pronunciation is (ɐ). The (ou) pronunciation has perhaps come from association with the other *wont*, sounded like *dont.*

farther—*ferther* gets its *er* from M.E. *ferre*(*r*), comp. of *fer* (A.S. *feorr*). In Modern English, *er* would become *ar*, by influence of *r*. The *a* in its position before *r* + cons. gives regularly (aa) through (ææ).

wound—The M.E. *ū* has been preserved through the conserving influence of *w*. *wound* (A.S. *wunden*) the participle of *wind* has followed the other participles *found*, *bound* &c. *through*—The (uu) sound is that of a weak form. A strong form would have yielded the same sound as *rough.*

dure—One would have expected (əər) in the present language, as in the case of M.E. *spure* (A.S. *spura*). *dure* and *spure* rhyme together in the Owl and the Nightingale. The Modern English phonetic authorities give long *u* as the pronunciation of the first vowel of this word. The cause of the lengthening is not clear. Later on (early in the 18th century), the *uur* seems to have been broadened into (ɔɔr), by the action of the *r*. Compare *floor* (A.S. *flōr*, M.E. *flor*) for the broadening of *uur* into (ɔɔr). For this word, the sound in *moor* (A.S. *mōr*) was to have been expected. *door* on phonetic authority had early in the 18th century the pronunciation of long close *o*, as indeed the spelling *oo* argues. *mournen*—The *ou* is evidence of length in Middle English. The long *u* (caused by group-lengthening) seems to have been retained in Modern English (as recorded in the phonetic authorities) and broadened later on (early in the 18th century) into (ɔɔ). *mourn* is quoted with long close *o* in a phonetic authority of the beginning of the 18th century. A form with short *u* (without group-lengthening—compare *turn*) seems also to have come up from Middle English, for the pronunciation (ɐ), the common outcome of short *u*, is also given on authority.

y : A.S. *y* is either *i*-umlaut of *u*, or stands for one of the *ie*'s, either *ię*, *i*-umlaut of *ea* (breaking of *a*), or *ie*, *i*-umlaut of *eo* (breaking of *e*). *nyllan*, &c., is for *ne willan*, &c.

In Kentish *y* was lowered and unrounded to *e*.

A.S. *y* was the high-front-narrow-round.

In Middle English *y* is in many quarters unrounded to *i*, but *y* still survived in the South and was written *u* (*ü*).

In Kentish the representation is *e*.

The character *y* was often written for the sound *i* in late Middle English, especially in the neighbourhood of *n*, *m*, *u*, and at the end of words.

A.S. *y* will then in Modern English follow the development of *u*, *i*, and *e*.

A.S. **y**.

ɐ	þrysce	þrusche	thrush
	crycc	crucche	crutch
	byndele	bundel	bundle
	scyttan	shutten, shitten, schetten	shut
	wyrgan	(a)wurien, wirwen, worowen	worry
i	mylen	myln, mylle, mulle,	mill
	myne	menow	minnow
	trymman	trumen, trimen	trim
	bysig	busy, bisi, besi	busy
	gylt	gylt, gult, gilt	guilt
	byldan	bulden, builden, bilden, belden	build

e	myrg	myrie, murie, merie	merry
	cnyllan	cnullen, knellen	knell
	lyft adj.	lyft, luft, lift, left	left
	hymlic	humlok, hemlok	hemlock
	byrigan	burien, birien, berien	bury
əe	wyrst	wurst, worst, werst	worst
	wyrm	wurm, worm	worm
	cyrnel	kurnel, kirnel, kernel	kernel
	styrian	styren, sturen, stiren	stir
	byrðen	burðene, birthin	burden
ai	fyrhto (ry)	friht	fright
	(ge)cynde adj.	kinde	kind
	ryge	rie	rye
au	dyhtig	duhti, dohte, douti	doughty
ii	yfel	yuele, uuele, euele	evil
	wyrd	wirde, werd, wierde, weird	weird
ɔɔ	hyrnetu	——	hornet

þrushe—M.E. *u* developed in Modern English through unrounding and lowering into (ɐ). *schetten* is Kentish. *worowen*—The *o* shews that the *u* = *ü* had, owing to influence of lip-consonant *w*, been completely backed to *u*, for which *o* is a common variant in the neighbourhood of *n*, *m*, and *u*. *busy*—The pronunciation of the modern spelling proves that the M.E. *u* = *ü* had not become *u*, but had remained and been unrounded to *i* later on, unless the present pronunciation has been transmitted from *bisi*. *guilt*—The *gu* indicates hardness. As for *minnow*, no M.E. form in *i* is quoted. *merie*—The *e*-forms have given development. *bury* has the spelling of one dialect and the pronunciation of another. *builden*—The *ui* argues long *ü* in Middle

English. To account for the modern pronunciation (got from later unrounding of *ü*, or transmitted from form *bilden*), there must also have been a form with short vowel exceptionally retained before *ld.* For similar retention, compare *gild* (A.S. *gyldan*).

worst, *worm*—These M.E. forms shew that the *ü* had been completely backed to *u*. *ur* gives (əə) in the present language. So do *ir* and *er.*

friht—The *h* changed into a glide, which with preceding *i* gave *ī*, whence the modern (**ai**). *kinde*—The *i* was group-lengthened to i. For *rie* compare *stie* (page 226).

doughty got long *u* from effect of parasitic vowel developed before *h.* The spelling has been influenced by M.E. *dowen* and *dought* (A.S. *dugan*, *dohte*). The long *u* it developed to (**au**).

euele—Kentish *e*, with usual lengthening before cons. + vowel, will give in the present language (ii). *werd* group-lengthened gives long *e.* This close *ē* was sometimes denoted by *ie*, which in Anglo-French had been smoothed into *ē.* And *ei* in some words of French extraction must have had this sound, judging from their development, e.g., *deceit*, *seison* (*sesoun*). So that *wierd* and *weird* denote the same sound as *werd.*

hornet—No M.E. form is quoted. Sweet says the analogy of *horn* gives *hornet.*

CHAPTER IX.

SOUND RELATIONS IN ENGLISH—LONG VOWELS AND CONSONANTS.

ā : A.S. *ā* corresponds to Teut. *ai* (I.E. *ai̯*, *oi̯*) (Goth. *ái*, O.H.G. *ei*, *ē*). In Anglo-Saxon there was dwarfing of the second element followed by compression. A.S. *ā* also corresponds to Teut. *ǣ* (I.E. *ē*) before *w*, or when the next syllable has *a*, *o*, *u*—*sāwon* 'saw' (Goth. *sēhwan*), *slāpan* (Goth. *slēpan*). It represents the results of various lengthenings.

A.S. *ā* was the long of *a*.

In Middle English A.S. *ā* was rounded to *ǭ* (long open *o*). It remained in the Northern dialects. French *ā* was imported after the rounding was over, and remained. A new *ā* was got in Middle English from the lengthening of *a* before a consonant + vowel. This has passed to (**ei**). Northern *ā* and French *ā* have the same development.

M.E. *ǭ* was first narrowed in Modern English. It then passed to the diphthong (**ou**), which has the first element open. The surroundings of the sound have however contributed to various results, as will be seen from the following table.

For *oa*, see under ō. A.S. *āw* becomes *ǭu* in Middle English. This has the same development in the present language, viz., (**ou**), as an *ōu* coming from A.S. *ōw*. Parasitic *ou* (*u* before *l*) has a similar development. The result (**ou**) is thus got from *ǭ*, *ǭu*, *ōu*, and *ou*.

A.S. ā.

ɐ	ān	an, oon	one
	nān	nan, noon, non	none
e	scādan, scēadan	scheden, shæden, sheden	shed
æ	hālgian	halijen, halewen, halwen	hallow
ɒ	onān	onan, anan, anoon	anon
	scān	schon, shoon	shone
	sārig	sariȝ, sari, sori	sorry
	hālig dæg	halidai, holidai	holiday
	hāt	hat, hoot	hot
	cnāwan	knouleche	knowledge
au	māse	mose	(tit)mouse
ei	hāl	hail, heil	hale
	rād	rade	raid
	rǣs (rās Norse)	rees, rase	race
ou	swā	sa, so	so
	māl 'macula'	mole	mole
	drāf	draf, drof, droof	drove
	rād	rad, rod, rood	rode
	rād	rode, roode	road
	āð	oth, ooth	oath
	āc	ak, ok, ook	oak
	hlāf	lof, loof	loaf
	sāwan	sawe, sowen	sow
	snāw	snaw, snou	snow
	āgen	oȝen, owen	own
	dāg	dah, doȝ, dogh, dow	dough
ii	swāpan	swopen, swepen	sweep
uu	hwā	hwa, hwo	who
	twā	twa, two	two

aa	āscian	asken, axen, eschen	ask
	gār-lēac	garleek, garleke	garlic
	lāwerc	lauerok, larke	lark
ɔɔ	āhwæðer	auðer, ouðer, oðer, or	or
	nāhwæðer	nawðer, nouðer, noðer, nor	nor
	hlāford	lauerd, louerd, lord	lord
	lār	lare, lore	lore
	hār	hor, hoor	hoar
	brād	brade, brod, brood	broad
	āwiht	aht, oht, aught, ought	aught
	nāwiht	naht, noht, naught, nought	naught
	āhte	ahte, auhte, ouhte	ought
	ðāwan	thowen, thawen	thaw

one—The pronunciation with long open *o* was extant early in the Modern Period. Previously, in some parts, the extra effort required for initial vowel, seems to have developed the labial element into *w*. Then ensued labialisation of vowel and common passage to (**ɐ**). An initial development of a palatal element into *y* may be seen in the Scotch *ane* and *yen*. The *w*-pronunciation of *one* was common in the Western dialects. Compare also *wold* for *old* and *woats* for *oats*, pronunciations heard in Dorsetshire. *none*—analogy of *one*.

shed—The short vowel of the M.E. *schedde* pret., a new formation, was extended to the present. This extension of vowel (*lette*, new formation, and *spredde*) will also explain the shortness in *let* (page 246), and in *spread* (A.S. *sprǣdan*).

hallow—The vowel was shortened in Middle English in the form where *l* was followed by *w*.

anon—Here we see shortening and lowering. *shone* has also (**ou**). *sorry*—The M.E. form with *a* was short. The long vowel had probably been shortened by the action of the back-shortening termination. Chaucer, however, has a form with long *o*, viz., *soory*. Perhaps the present *o* and its pronunciation have been got from influence of M.E. *sorwe* 'sorrow' (A.S. *sorg*). *holiday*—For shortness compare *hollyhock*. *knowledge*—Many pronounce with (ou). *hot*—For shortening of *ǭ* compare shortening of *ę̄* in *head*.

(*tit*)*mouse* shews influence of the other *mouse* (A.S. *mūs*).

heil shews influence of Norse *heill*. The regular development of A.S. *hāl* gives *whole*. *rade*—This is Northumbrian form with long *a*, whence (ei). *road* is the lineal descendant of A.S. *rād*. *race*, from Northumbrian *rase*, with long *a*.

(ou) direct result of A.S. *ā*. *sow*—A.S. *āw* gives *ǭu* in Middle English, which passes to (ou) in Modern English. *own* shews ordinary change of *g* to *w* after guttural vowel. *dough*, a parasitic *u* makes no difference; *ǭ*(*u*)*h* and *ǭuh* give the same result. Compare *low* (Norse *lāg*), M.E. *lah*, *louh*, (*bi*)*loogh*.

sweep—The vowel is from M.E. pret. *swēp* (A.S. *swēop*). There was also a M.E. *swę̄p*(*i*)*en* (A.S. *sweopian*). *swāpan* gave *swǭpen* in Middle English.

who, *two*—The *ǭ* from *ā* was in Middle English made into *ō* by the *w*, and followed the development of that sound.

ask, &c.—The *a* was shortened before two consonants. It (æ) was then lengthened before *s* + cons., and *r* + cons., and passed to (aa).

or, *nor*—The weak forms passed through *ǭu*ð-, *ǭ*ð, *ǭ̆*, to *o*. *or* gives (ɔɔ). *broad*—The M.E. *ǭ* (low-back-wide-round) was preserved in this word by the influence of *r*. It is now narrowed to (ɔɔ). Something similar happened in the case of *groat* (A.S. *grot*), with lengthened *o* in Middle English. Compare *break* (page 221) and *great* (page 255). *aught naught*—

The *ā* is regularly represented by the *ǭ* of *oht* and *noht*. *aht* and *naht* represent shortened *ā* before two consonants. *a* with parasitic *u* before *h* gives *au*, which has passed to (ɔɔ), first becoming a monophthong (the long low-back-wide-round). A *u*-less pronunciation of *o*(*u*)*h* would give pretty much the same result—cp. *sought* (page 268). *aught* is the spelling now preferred for the sake of distinction from *ought*. *ought*, same explanation. The *ǭ* may come as before from a form that was subsequently shortened, or from the infinitive *ǭwen* (A.S. *āgan*). *thaw* should have been *thow* (heard in North Cumberland), like *sow*, but has developed like short *aw*.

ǣ: A.S. *ǣ* corresponds to Teut. *ǣ* (I.E. *ē*) (Goth. *ē*, O.H.G. *ā*). In Kentish and Anglian this is written *ē*. There is also an *ǣ* which represents the *i*-umlaut of *ā* (Teut. *ai*) in all the dialects. *ǣ* is also its own (Teut. *ǣ*) umlaut. This in dialects other than West Saxon is, like its original, written *ē*. In Anglo-Saxon *ǣ* also represents a lengthening of *ǣ*(*a*). Dialectically, it represents *ēa* (Teut. *au*) before *c*, *g*, *h*, and the *i*-umlaut of Teut. *a* before *l* + cons. (W.S. *e*).

A.S. *ǣ* was the long of *æ* (low-front-wide).

M.E. *ę̄* is the regular representative of A.S. *ǣ*. It has now passed to (ii). At an early date narrowing supervened. See under *ēa*. For *ea*, see under **ē**.

A.S. ǣ.

i	gesǣlig	sely, seely	silly
	rǣdels	redels	riddle
e	lǣssa	lasse, lesse	less
	wrǣstan	wresten	wrest

	ǣrende	er(e)nde, erand	errand
	ǣfre	afre, efre, euere	ever
	hrǣcan	——	retch
	lǣtan	leten	let
	wǣt	wet, weet	wet
	swǣtan	sweten	sweat
	brǣð	breth, breeth	breath
	mǣd (mǣdwa, plu.)	medwe	meadow
	(ǫn)drǣdan	dreden	dread
	rǣdde	reed	read
	ǣt	et, eet	ate
æ	fǣtt	fat, fet	fat
	hlǣder	laddre, leddre	ladder
	nǣdre	naddre, neddre	adder
	blǣdre	bladdre, bledder	bladder
əə	wǣron	weren, were	were
ai	ǣghwǣðer	aiþir, eiðer, ethir	either
	*nǣghwǣðer	neyþer, nethir	neither
ei	hlǣfdige	laefdi, lefdi, lauedi, ladi	lady
	wǣg	wawe	wave
	clǣg	clei	clay
	hnǣgan	neȝen	neigh
	grǣg	grai, grey	grey, gray
	gǣ (gēa)	ȝea, ȝa, ȝe	yea
ou	mǣst	mast, moste, mooste	most
	stǣwð	sleuþe, slouthe	sloth
	lān(lǣn)	lone	loan
	mǣnan	menen	moan
ii	ǣfen	efen, euen	even
	rǣd	rede, reed	rede
	sǣ	sae, see, se	sea
	ǣlc	elche, eche	each
	tǣsan	taisen, tosen, toosen	tease
	mǣnan	menen	mean

ii	mæl 'momentum'	mel, meel	meal
	*brǣðan	breðen	breathe
	rǣdan	reden, raden	read
	sprǣc	spæche, speche	speech
	ǣl	el	eel
	cǣg	kay, keye	key
uu	lǣwed	lewed, lewde	lewd
yuu	mǣw	mawe, meaw	(sea)mew
iə	rǣran	reren	rear
	fǣr	fere, feer	fear
	skǣrr (Norse)	skere, schere	sheer
	bǣr	beere	bier
äə	ǣr	er	ere
	ðǣr	þere	there
	stǣger	steir	stair
	hǣr	here, heer	hair
aa	lǣstan	lasten, lesten	last
	blǣst	blast	blast
	ǣmette	amete, amte, emete	ant
	gǣstlic	gastli	ghastly
ɔɔ	wrǣððo	wraþþe	wrath
	tǣhte	tahte, tagte, taucht	taught

silly, *riddle* have been shortened from long *i*. Compare *sick* (page 258) *redels*—For loss of *s* in the modern word, compare *burial* (A.S. *byrgels*).

less—*ǣ* when shortened before two conss. (page 200) was in Middle English written *e* and *a*. Midland and Northern texts affect *e*. *errand* was shortened from a M.E. form in which *r* was followed in pronunciation by *n*. *ever* was shortened later on in Middle English before two consonants. *let*, *wet*, &c., were shortened early in Modern Period (cp. *shed*). The shortening in *breath* is comparatively recent. *meadow*

—The *w* is got from the oblique cases. *mead* has developed regularly (**ii**). *dread* and *read* suffered shortening in Modern Period. *read* (pret., A.S. *rǣdde*) seems to have kept length in Middle English in spite of the two consonants. The present *read* (A.S. *rǣdan*) has kept on to (**ii**). *ate* has two pronunciations (**ei**) and (**e**). The first pronunciation is that which a short M.E. *at* would acquire when levelled under the quantity of the plural. And a short preterite singular was developed in Middle English (or in Anglo-Saxon), after the analogy of other verbs with short singular and long plural. The long vowel in A.S. *ǣt* is exceptional, but Teutonic. The pronunciation with (**e**) is a shortening from early Modern English of the then form of our regularly developed preterite eat (**ii**). The pronunciation with (**e**) attached itself to the spelling *ate*. Compare the pronunciation of preterite *beat* as *bet*.

fat, &c.—The *a*-forms have given development. M.E. *a* regularly becomes (**æ**). *ladder*, &c.—The two consonants were developed at a late period in Anglo-Saxon. After long vowels, *t* and *d* were then sometimes doubled. For loss of *n* in *adder* compare *auger* (A.S. *nafogār*).

were—It is a weak form with short *e* that has given the present (**əə**). The M.E. form had *ę̄*.

either, *neither*—The vulgar pronunciation with (**ei**) is regular. The (**ii**) pronunciation is explicable. The long close *e* into which M.E. *ei* had developed may have gone over to the long close *e*'s that came from M.E. *ę̄*. Compare *key* in this list. The (**ai**) pronunciation is irregular. A.S. *ǣghwǣðer* is from *ā* (E. *aye*), umlauted into *ǣ* by the *i* of the orig. *gi* that followed, *ge-* (ordinary prefix), and *hwǣðer* (E. *whether*.)

lefdi is the Northern form of shortened *ǣ*. *lauedi* and *ladi* are Southern forms. The *a* was lengthened before cons. + *vowel*. *clay*—M.E. *ę̄i* (A.S. *ǣg*) is generally represented in Modern English by the spellings *ei*, *ey*. M.E. *ēi*, A.S. *ēg*, *ǣg* (Anglian *ēg*) has the same representation. These two M.E. diphthongs suffered shortening and followed the course of *ei*. Both short *e*'s were open in Middle English. M.E. *ei* (*ai* passed to long open *e* through *æi*) assimilated both elements to a long open *e*, and, after narrowing, passed to the diphthong (**ei**), which has now the first element open. There was a mixing of the spellings *ai* and *ei*. *neigh*—A.S. *ēg* has usually become (**ai**)—cp. *tie*, *dye* (page 252). *wave*—M.E. *wawe* is due to influence of *wawen* (A.S. *wagian* 'move'); *wave* has been influenced by the verb *wave* (A.S. *wafian*). *yea*—The long close *e* that was regularly got from M.E. *ę̄* was retained as in *break* and *great* (page 255). It has now become (**ei**) like the long close *e*'s that derived from M.E. *ā*.

most—The long *o* is due to the *ā* of the comparative (*māra mā*). A.S. *ā* was rounded to *ǭ* in Middle English. M.E. *ǭ* gives (**ou**). *sloth*—This form and pronunciation is due to the influence of *slāw* 'slow.' *loan*—*lān* and not *lǣn* is responsible for this form. *moan*—due to influence of the noun *mone*, *moon* (?) (A.S. *mān* 'wickedness.')

(ii) is the regular development. *each*—For loss of *e* compare *which* and *such*. The *l* is retained in the North, *e.g.*, Lowland Scotch *ilk*, which must not be confounded with another *ilk* meaning 'same' (A.S. *ylca*). *tease*—The form *toose* must be due to some form with A.S. *ā*. There is also a compound *to-tasen* 'to pull to pieces.' *taisen*—Perhaps the *i* is a parasite developed before a front consonant as in M.E.

aische ‘ ashes ’ (A.S. *asce*). The plant has M.E. *tesel*, *tasel*. *speech*—The *r* dropped at a very early date. *key*—cp. *either* (see above).

lewd—*ę̄u* (*ēu*) passed to ((**y**)**uu**). *mew*—There are forms quoted with *ea* and *æ*. In the North the word is pronounced (**au**). A M.E. *mowe* occurs.

rear—*ę̄r* has become (**iə**) or still broader (**äə**). *bier*—for *ie*, cp. page 188. *ere*—There are also M.E. forms *ar*, *or*, the first representing a shortened unstressed *ǣ*, the other shewing influence of Norse *ār*. *hair*—The *ai* is got from the analogy of many words ending in *r*.

last, &c.—the *a* shortened before two consonants. It (**æ**) was then lengthened before *s* + consonant and passed to (**aa**). *ant* by the analogy of *aunt* developed a *u* and with this passed to (**aa**) (page 214).

wrath—*a* was shortened in Middle English, and by *wr* rounded in Modern to (**ɔɔ**), see page 215. *taught*—*a* was shortened before two consonants in Middle English and *u* developed. *au* passed to (**ɔɔ**). Compare *fought*.

ē : A.S. *ē* corresponds to Teut. *ē* (O.H.G. *ea*, *ia*, *ie*). It also represents the *i*-umlaut of *ō* (and lengthened *o*). It is the result of certain contractions. In dialect it stands for *īe*, the *i*-umlaut of *ēa* and *ēo*. It also in dialect answers to the *ēa* that followed palatals, and is the smoothing of the *ēa* and the *ēo* that preceded *c*, *g*, *h*. It may also represent W.S. *ǣ*—*rēd* advice, W.S. *rǣd*.

A.S. *ē* was the long of *e*.

M.E. *ē* represents not merely A.S. *ē* *ēo*, but also Anglian *ē* (W.S. *ǣ* and *īe*(*ȳ*)). In Modern English, after *ī* had become diphthongised, *ē* was raised into its place and made its passage into the modern diphthongic (**ii**). *ę̄* ultimately reached the same goal. Words that derive from long close *e* have *ee* in modern spelling, words that derive from long open *e* have *ea*(*e*). There was confusion in spelling at an earlier date. Compare the use of *oo* and *oa*.

Many of the forms in the A.S. column are Anglian.

A.S. ē.

ɐ	hēng	heng, hing, hong	hung
i	brēc	breech, plu.	breeches
	scīrgerēfa	schirrēve, scherreue	sheriff
	*strēpan	strepen, streepe	strip
e	ðēfð	thefte	theft
	bēcnan	beknen	beckon
	blēdsian	blessen	bless
	(ge)mētte	mette	met
æ	brēmel	brembil	bramble
əə	hērde	herde	heard
ai	hēhðu	heighte, highte	height
ai	tēgan	teiȝen, tiȝen, teyen, tyen	tie
	dēgan	deȝen, diȝe, deie	dye
aiə	brēr	brere	briar
ei	hēg	hei, hai	hay
	twēgen	tweien	twain
	ēgað	eit	eyot
	wēste	weste	waste
ii	mē	me	me
	wē	we	we
	gē	ȝe	ye
	hē	he	he
	ðē	þe	thee
	ēcan	eken	eke
	hēla	heele	heel

ii	fēlan	felen	feel
	tēð	teð, teeth	teeth
	gēs	gees	geese
	fēt	fet	feet
	-tēne	-tene	-teen
	(ge)lēfan	beleve	believe
uu	brēsan	brese, brusen, broosen, brissen	bruise
iə	hēr	her, heer	here
	stēran	steren	steer
	hēran	heren	hear
	wērig	weri	weary
aa	hērcnian	herknen	hearken
			hark

hung—The M.E. *heng* was shortened. For the rare short close *e* thus obtained *i* was substituted. The *hing* thus got was, on the analogy of *sing sang*, made into a present with a preterite *hang*. The analogy was extended by the creation of a participle *hung*, the vowel of which was assumed by the preterite. The modern infinitive *hang* was got in the Middle English period from A.S. *hangian.*

breeches, &c.—shortened from long *i.* Short *i* is a wide sound in the present language.

theft, &c.—The vowel was shortened before two consonants. Short close *e* was opened in Middle English. It has remained.

bramble—In the New English Dictionary mention is made of *brembil bræmbel*, shortenings of *brēmel brǣmel* before the two consonants (*m* + euphonic *b*). *bræmbil* would give *bramble.*

heard—To account for the once prevalent (and still existing) pronunciation (*hard*) we must assume shortening before the two consonants. The short *e* thus got would be changed to *a* before *r* in Modern English. But the spelling *ea* shows that short *herde* must have been group-lengthened to *hę̄rde*. The length would enable it to escape the passage into *a* that *r* marked out for a preceding short *e*. Later on the *e* was shortened, as in many words (page 255). *er* gives (**əə**).

height—M.E. *eiht* usually gives (**ei**). Compare *eight*. This word has taken after its adjective *high*. *tie*, *dye*—The Anglian *ē* was assimilated to the glide *i* that was developed between it and *g*. From *ī* comes (**ai**). *briar*, hard to explain. Compare the change of M.E. *frere* into *friar*. In the sixteenth century *brier* was in vogue. For the spellings *brier briar*, cp. *lier liar*. *brere* occurs in Shelley's Adonais—'*And build their mossy homes in field and brere.*' *hay*—*ei* is a more frequent representative of M.E. *ēi* (*ę̄i*). *eit*—Sweet says through *ēgð*, *ēhð*. M.E. *ei* (*ai* passed into long open *e* through *æi*) assimilated both elements into a long open *e*, and, after narrowing, passed to the diphthong (**ei**), which has now the first element open. The spellings *ai* and *ei* were confused. *waste*—The French word displaced our own. These French spellings in *ast* pass to (**ei**), compare *paste*, *taste*.

mē—*þē* are monosyllabic lengthenings in Anglo-Saxon (page 199). This list exhibits regular development. *believe*—*ie* represents close *ē* (page 188).

bruise—The late W.S. form was *brȳsan*. The modern word is an instance of the preservation of the spelling *ü* (with the French character *ui* (page 190)). Compare the course of *rude* into (**uu**). *brese* may come from Anglian *brēsan*, or be a Kentish form with *ē* for A.S. *ȳ*. *broosen* is supposed to derive in some way or other from O.F. *bruisier brisier*, which was merged into *brȳsan*. The form *brissen* with short vowel is anomalous.

here, &c.—*ēr* gives (iə). *hark*—The vowel shortened before two consonants was changed into *a* before *r* and developed through (æ, ææ) into (aa). The spelling *hearken* indicates a lengthening (long open *e*) before *r*-combination. Of this there is a shortened pronunciation recorded, cp. *heard* (see above).

ēa: A.S. *ēa* corresponds to Teut. *au* (I.E. *au̯*, *ou̯*) (O.H.G. *ou*, *ō* (before dentals)). It is the result of various contractions. There is also an *ēa* = (*e*)*ā* got (1st) from a sequence of the palatals *g*, *c*, *sc*, and Teut. *ǣ*—*g*(*e*)*āfon* (O.H.G. *gābun*), (2nd) from a sequence of the palatal *g* (Teut. *j*) and Teut. *ǣ* —*g*(*e*)*ār* (O.H.G. *jār*), (3d) from a sequence of the palatal *sc* + *ā* (Teut. *ai*)—*sc*(*e*)*ādan* (Goth. *skáidan*).

A.S. *ēa* was the long of *ea* (low-front-wide + low-back-wide). M.E. *ę̄* regularly represents A.S. *ēa*. It has commonly given (ii*)* in the present language. The *ę̄* in Modern English was first narrowed, then raised to long *ı*.

A.S. ēa.

i	foran-hēafod	forheued, forheed	forehead
	-lēas	-lees	-less
	hrēac	rek, reek	rick
e	dēað	deð, deeþ	death
	hēafod	heued, heed	head
	þrēatian	þreten	threaten
	hēahfore	heifre, haifre	heifer
æ	lēaðor	———	lather
	cēapmann	chepmon, chapman	chapman

ai	hēah	heh, heih, heigh, hi	high
	ēage	eȝe, eiȝe, eie, eye, ye	eye
	lēag	leie, lie	lye
ei	grēat	gret, greet	great
ou	cēas	ches, chees, chos	chose
	scēawian	schawen, schewen	show, shew
	ðēah	thoh, thogh, thouȝ, thof	though
ii	flēah	fle, flee	flea
	ēast	eest	east
	bēacen	bekene	beacon
	bēatan	beten, beeten	heat
	ēac	ec, eek	eke
	lēac	leek	leek
	stēap	stepe	steep
	(ge)lēafa	leue, leeue	belief
uu	screāwa	shrewe, schrewe	shrew
	flēag	fleigh fley; flowen, vluwen	flew
yuu	hēawan	hewen	hew
	dēaw	deu, dew	dew
iə	nēar	nere, neer	near
	tēar	tere, teer	tear
ɔɔ	gēard	ȝare, yoore	yore
	hrēaw	raw	raw
	strēaw	stree, straw	straw

forehead,-less—Shortening of long *i* in unstressed syllable gives short *i* (wide). A pronunciation with short *e* is common in both words. In the former, this will represent the short vowel in *head*, in the latter, perhaps the influence of the other *less*.

rick—For shortness compare *breeches* (page 251).

death, &c., ordinary shortening of M.E. *ę̄* as in *breath*, *heavy* (pages 220 and 246).

heifre—The *ei* corresponds to the *ei* of *heih* (see below). In that word the *i* is a glide-vowel developed before the *h* which afterwards raised the *ē* to its position. In *heifre* the *ei* seems to have followed the development of M.E. *ei*, and when the long open *e* stage was reached to have been shortened as in *heavy*, *death*, *head*. The *ai* of *haifre* will then be another spelling of *ei* (page 252), compare *neighbour*, (M.E. *neihebur*, A.S. *nēah-gebūr*). *ei* is always written before *gh*.

lather—Suppose a M.E. *lę̄ðer*. This might be shortened by the action of the back-shortening termination *er*. Back shortenings occasionally produce as well as conserve shortness. *chapman*—There must in Middle English have been a shortening into *ea*, which would give *ę*, whence *a* (page 206).

high, *eye*—The Anglian *hēh* and *ēge* became in Middle English *hīh* and *īe* by the action of the glide-vowel on the preceding *ē*. The open *g* disappeared in *īe*. Our present spelling retains all the letters (*eȝe*, *eye*) that once were pronounced. The long *ī* thus got in these words gives (**ai**).

great—The *r* retained the long close *e* into which M.E. *ę̄* had developed in the Modern Period. Long close *e* has now become (**ei**), of which the first element is open. Compare *break* (page 221).

chees—This is regular from *cēas*. *chose* is either the descendant of A.S. *c(e)ās* (A.S. *ā* gives M.E *ǭ*, whence our (**ou**)), or the vowel has been got from the M.E. participle *chǭsen*. The A.S. participle was *coren*, but in Middle English it acquired *ch* and *s* from the other forms of the verb. *show*—A.S. *sc(e)āwian* would give *schǭwien* in Middle English. From this has come *show*. *schę̄wien* would be the regular M.E. development of A.S. *scēawian*. From this we have the spelling *shew*, but the pronunciation is that of *show*. *þēah* is a hard word and seems to have developed its vowel like *(e)ā*, as in the previous words. The result of this before *h* should have been (**thɔɔf**), cp. North. *thof*. For *ǭ(u)h* in Middle English giving (**ɔɔ**) in Modern English, compare *ought* (M.E. *ǭ(u)hte*, A.S. *āhte*). The (**ou**)-sound of modern *though* indicates a weak form with loss of *gh*, cp. *dough* (A.S. *dāh*) (page 243). Short *ea* in *sleaht* and *feaht* (*slaughter*, *fought*) has also given this sound (**ɔɔ**).

flea—(**ii**) is the usual goal of *ēa* in Modern English. *belief*—For the *ie*, see page 188.

shrew, *hew*, *dew*—For M.E. *ę̄u*, see page 222.

flew—The analogy of the *know knew* and *grow grew* class has produced this. From the M.E. forms there are theoretically three sound-forms deducible (**ai**), (**ou**), (**au**).

near—*ēr* gives (**iə**).

yore comes from *g(e)āra*. A.S. *ā* becomes *ǭ* in Middle English. *ǭr* gives (**ɔɔ**). *raw* has developed as if from short *eaw*. Compare *thaw*. So with *straw*, but the *stree* of Middle English points to long *e*. With *stree* compare the Scotch word.

ēo: A.S. *ēo* corresponds to Teut. *eu* (I.E. *eu̯*) (Goth. *iu*, O.H.G. *iu*, *eo*, *io*, *ia*). It is the result of various contractions and lengthenings. It appears after Teut. *j* and palatal *sc* with value *(e)ō*—*gēomār* 'sadness' (O.H.G. *jamar*), *scēoh* 'shoe.'

A.S. *ēo* was the long of *eo* (mid-front-narrow + mid-back-narrow-round).

M.E. *ē* represents A.S. *ēo*. See under *ē*.

A.S. ēo.

i	sēoc	sek, seek	sick
	hēope 'rosae silvestris bacca'	hepe, heepe	hip, hep
e	brēost	brest	breast
	fēoll	fel	fell
	hēold	heeld	held
	frēond	frend	friend
ee	stjōrn (Norse)	sterne	stern
	ðrēotēne	threttene, thritteind	thirteen
ai	leoht 'levis'	liht, liʒt, licht	light
	ðēoh	þeh, þeiʒ, þih, þi	thigh
	tēo(go)ðian	tethen, tithen	tithe
	lēogan 'mentiri'	lihen, liʒen	lie
	flēogan 'volare'	flegen, fleie, vli	fly
	flēoge 'musca'	fleʒe, fleie, flie	fly
au	trēowian	tru, trow	trow
ou	sēowan	sewen, sowen	sew (sow)
	trēowð	trouthe	troth
ii	sēo	sche, shee	she
	bēo (1 sing.)	be(n)	be
	sēo (1 sing.)	se, see	see
	trēo	tre, treen plu.	tree
	hwēol	whele	wheel
	sēoðan	sethen	seethe
	fnēosan	fnesen	sneeze
	(ge)bēon	iben, been,	been
	clēofan	cleven	cleave
	bēot	bet, beet	beat
	prēost	prest, preeste	priest
	lēof	lef, leef	lief

uu	ðrēow	þreu, þrewe	threw
	clēowe	clewe	clew
	hrēowan	rewen	rue
	trēowe	trewe, tru	true
	trēowð	treuthe, truthes pl.	truth
	(for)lēosan	lesen	lose
	cēosan	chesen, chusen	choose
	scēotan	scheten, schuten	shoot
yuu	ēow	ew	yew
	nēowe	newe	new
	cnēow	kneuȝ; knewen	knew
	gēola	ȝole	yule
	hēow	hew	hue
	ēow	ȝou, ou, ȝew, eu	you
	gēoguð	ȝuȝeð, ȝuweðe, youthe	youth
iə	dēore	dere	dear
	dēor	der, deer	deer
	hlēor	lere	leer
yuə	ēower	ower, ȝure, youre	your
aa	dēorling	derling	darling
	fēorðling	ferthing	farthing
ɔɔ	fēower	fower, foure	four
	fēowertig	fourti	forty

sick, shortened from long *i*-sound. Compare *breeches*. *hip*, similar shortening. *hep* (e) probably represents a shortening transmitted from that stage in the Modern Period when M.E. *ē* (and *ę*) was shortened.

breast, long in Middle English. The *ea* shows that the word had long open *e*-sound in Modern period. Compare *heard*, which was shortened and lengthened again in Middle English (page 252). Compare the course of *breast* with that of *priest*. *held* had long close *e* in Middle English. There is also a spelling with *ie.* The shortening would take place early in the Modern Period, or a short form may have come down from Middle English. *friend*—The *ie* is one way of representing long close *e* (page 188). Very much the same may be said of this word as of *held. breast* and *friend* are often to be heard with the (ii) of the regular development.

stern—*er* and *ir* give (əə). *thirteen*, transposition of letters as in *third.* The A.S. word has many forms, such as *-eot(t)-*, *-īt-*, *-itt-*.

light—In *le(o)ht*, the *e* was changed to *i* before palatal *h*. The vowel in this word before breaking was *ī*. It was shortened before *ht* (cp. *sōhte*, page 268). In Modern English the *h* of *liht* passed into a breath-glide which, merged in the foregoing vowel, gave long *i*, whence the (ai). *þeh*—The *ē* was raised to *ī* by the parasitic glide that was developed before the *h*. The stages were—*ēih*, *īih*, *īh*.

trow—This could come from M.E. *ū*, which gives (au) in the present language. The *ū* seems to have been due to influence of Norse *trūa* 'trow.' The A.S. original is also sometimes written *trūwian.*

sew (*sow* obs.) The spelling derives from M.E. *sewen*, the pronunciation, from *sowen.* The analogy of *shew show* may have had something to do with the development of similar forms in this verb. M.E. *sǭwen* might have been got from the influence of an A.S. participle *sowen*, which we may suppose to have existed. The verb had a mixture of strong and weak forms in Anglo-Saxon. The pronunciation proper to the spelling *sew* may be heard any day in Scotch. *troth*—*truth* is the regular development. A pronunciation *trōwð* in Middle English would account for *troth.* It has also the pronunciation of *broth.* Compare *four*, where the *e* was rounded out of existence by the neighbouring lip-letters. The *r* has of course shaped the *ōw* into (ɔɔ).

(ii) is the regular development. For the *sh* in *she* see (page 290). *sneeze* (*neeze* obs), due to refashioning of the difficult initial sound of *ſneeze*. *gebēon* is theoretical. No participle appears in Anglo-Saxon. *cleave*—There was a weak A.S. verb *cleofian* 'adhere' which gave in Middle English *clę̄vien*. From this *cleave* 'split' got the long open *ea* (page 250). *beat*—The *ea* got from the present (M.E. *bęten*, A.S. *bēatan*), or shortened from a M.E. weak *bę̄ted*. *priest*, *lief*—For *ie*, see page 188.

M.E. *ēu* is written *ew* in some words and sometimes *ue*, *u*. It developed to (**yuu**) through various intermediates, with shifting of stress on to second element and consonantisation of first element. The *y* was dropped after certain letters—*r*, *l* (not always), &c. Compare what is said on *ę̄u*, page 222. *ǖ* (in French words) final as well as medial was levelled under *ēu*.

choose is a phonetic spelling of earlier *chuse*. This was the descendant of M.E. *chǖsen*. The *ǖ* is a dialectic development of A.S. *ēo*, and has had the development of *ēu*. The M.E. *chesen* (regular from *cēosan*) was also represented by *chese* early in the Modern Period. *shoot*—The same explanation accounts for this word. *lose*—at first *loose*, then *lose*, to differentiate it from *loose* adj. The *for* of *forlēsen* was dropped owing to influence of *losien* (A.S. *losian*, usually neut.). Sweet does not explain the vowel-sound of *lose* as he explains those of *choose* and *shoot*, but avers that *lese* (of early Modern Period) borrowed the vowel (uu) of the adjective *loose* (M.E. *lōs*, of Norse origin).

yule—A.S. *g*(*e*)*ōla* would give *ʒōle* in Middle English.

Long close *o* was passed to (uu) in the present language. The influence of Norse *jōl* would also tend to give this result. *gēoguð*—The *g* passed to *w* and then dropped. *youth* has exceptionally retained its long *u*, cp. *uncouth.*

dere—*ēr* gives (iə).

darling, *farthing*—There was shortening in Middle English. Then ensued in Modern Period change of *e* to *a* by action of *r*. The *a* (æ) was lengthened before *r* + cons. (page 214) and passed through long æ to (aa). *four*—See above under *troth.*

ī: A.S. *ī* answers to Teut. *ī* (Goth. *ei* I.E. *ī*). The sound is very constant. A.S. *ī* may also answer to I.E. *ei̯*—*þrī* (Gk. τρεῖς). It stands also for a compensatory lengthening of Teut. *i.* Sometimes an original *ē* finds representation in Anglo-Saxon under *ī.* The *īe*'s that are the *i*-umlauts of *ēa* and *ēo* are also thus represented. A.S. *ī* was the long of *i.*

In Middle English *ī* remained. In Modern English it passed by divergence of first element into a diphthong, and through lowering, retraction, and widening, reached the sound (ai).

A.S. **ī.**

i	crīstendom	cristendom	christendom
	grīst	grist	grist
	(on)grīslic	grislich, grisli	grisly
	stīg-rāp	stirop	stirrup
	dīc	dich	ditch
	æt-wītan	atwiten	twit
	līnen	linen	linen
	wīf-mẹnn	wimmen, wummen	women
e	scīr-gerēfa	schirreue, scherreue	sheriff

u	wīf-mann	wimman, wummon, womman	woman
ai	hwīl	hwile, while	while
	fīf	fife, uiue	five
	hīwa	hine, hyne	hind
	ðrīwa	þriȝes, þriës	thrice
	bī	bi, by	by
	sīðe	sithe, syðe	scythe
	hīgian	hiȝen, hyen	hie
aiə	īren	iren, yren	iron
	scīr	schire, shire	shire
ii	snīcan	sniken	sneak
yuu	spīwan	spewen, spue	spew, spue
	tīwes-daeg	tisdei, tewesday	tuesday
yuə	stīg-weard	stiward, steward, stuward	steward

cristendom—The vowel is shortened before two consonants (page 200). Length however often remains before *st*, *e.g.*, *priest*, *least* (page 258). The quality of the *i* is altered in the shortening. Short *i* is wide. *stirrup*, shortened from *steerup*. *dich*—The *c* was softened after the front vowel, supported by the *e* of the inflectional forms (page 278). In *dike* the vowel is regular and there is no Southern softening. *twit* must once have had long *i*. Spenser rhymes it with *light* and *plight*, and writes it by false analogy *twight*. *linen*—The vowel is long in *line*. Perhaps the back-shortening termination helped on shortness. *wimmen*—The *mm* due to assimilation of *f* to *m*. The long *i* is still heard. The form with *u* is due to the analogy of the singular, where the labialisation was not merely graphic but gave development. The *u* was written *o* between the *w* and *m*.

sheriff—The *i* was shortened before two consonants. For lowering to *e* compare (*shep*)*herd* (A.S. *scǣp-hirde*). The *e* of *-herd* is of course now sunk under obscure vowel (ə). A similar lowering, due to lack of stress, is seen in M.E. *here* 'her' (A.S. *hire*).

womȧn—See *women* above. The short *u* of this word also had a development into (ɐ). This sound is still to be heard.

(**ai**) is the regular development. *hīnd*—The *d* is excrescent (cp. *thumb*, *sound*). The *n* in the M.E. form is a difficulty. It is supposed to come from the gen. plu. *hī*(*we*)*na*, in such a combination as *hī*(*we*)*na man* 'a man of the domestics.' A new plural creation with *n* in nominative might arise out of this combination. A singular form in *n* would then naturally appear. *þriës*—The ending is due to analogy, compare *ānes* 'once.'

hiȝen—After the palatal vowel *i*, the *g* becomes *i*, and is merged in the long vowel.

iron—*īr* = (aiə). The unaccented vowel is sometimes written *o*—cp. *weapon*, *beacon* (A.S. *wǣpen*, *bēacen*).

sneak—Some dialectic form may be the parent of this sound. Compare *reopan* (Mercian, W.S. *rīpan*) into *reap*. *spew*—M.E. *ēu* corresponds to A.S. *ēw*, *ēow* (W.S. *īw*). It is written *ew* and *ue*. Final French *u* was written *ew* and the two spellings *u*(*e*) and *ew* thus got mixed. M.E. *ę̄u* corresponds to A.S. *ǣw*, *ēaw*. It is always written *ew*. *steward*—long *ür* = (**yu**ə).

ō : A.S. *ō* corresponds to Teut. *ō* (O.H.G. *uo*, *ua*, I.E. *ā*, *ō*). It also stands for several compensatory lengthenings of Teut. *o*. In some words it answers to Teut. *ǣ* (Goth. *ē*, O.H.G. *ā*, I.E. *ē*)—*mōna* 'moon,' Gk. *μήνη*. A.S. *ō* was the long of *o*.

ō remained in Middle English, but passed in the Modern Period to long *u*, which is now diphthongised to (uu). This sound was shortened in certain words, especially before *th* and *d*, and has now passed to (ɐ). Later on, another shortening took place, very generally before stop-consonants. This shortening, occurring after the passage of *u* to (ɐ), has remained.

Words that derive from long close *ō* have *oo* in modern spelling, words that derive from long open *ǭ* have *oa* (*o*). There was confusion in spelling at an earlier date. Compare the use of *ee* and *ea*. For *ōu* see under *ā*.

A.S. ō.

ɐ	mōste	moste, muste	must
	rōðor	rothyr, rodyr	rudder
	dōð	doð, dooth	doth
	ōðer	oother	other
	brōðor	brother	brother
	mōdor	moder, mooder	mother
	mōnað	moneth, mooneth	month
	mōnan-daeg	moneday, munendai	monday
	flōd	flood	flood
	genōg	inouh, enogh, inough	enough
	tōh	tough	tough
ə	-dōm	-dam, -dom, -doom	-dom
ə	wōdnes-dǣg	wodnes-dei, wednes-dai	wednesday
u	bōsm	bosum	bosom
	hōc	hoc, hok	hook
	scōc	schook, shook	shook
	fōt	fot, foot	foot
	tō	to	to

o	blōstma	blostme, blosme, bloosmes pl.	blossom
	gōs-hafoc	gos-hauk, goshawke	goshawk
	fōd(d)or	fod(d)er	fodder
	gescōd	ischood, schod	shod
	hōh	houʒ	hough
au	slōg	slouh, slough	slough
	plōh	plouh, plouʒ	plough
	bōg	bogh, bouz ; boowes plu.	bough
ei	cōm	coom, cam	came
ou	hōf	haf, houe	hove
	behōfian	behoue	behove
	rōwan	rowen	row
	blōwan	blowen	blow
	wōc	wok	woke
uu	dō (1 sing. pres.)	do	do
	tō	to	too
	stōl	stole, stool	stool
	smōðe adv.	smethe, smoothe	smooth
	tōð	toth, tooth	tooth
	gōs	gos, goos	goose
	wōs	wose, woose	ooze
	ōwef	oof	woof
	wōgian	woʒen, wowen	woo
	lōma	lome	loom
	rōd	rode, roode	rood
	scō	scho, schoo	shoe
	slōg	slouh, slouʒ, slou	slew
	drōg	drouh, drouʒ, drou	drew
äe	swōr	sware	sware
ue	mōr	more	moor
ɔe	ōra	or	ore

ɔɔ	sōfte adv.	softe	soft
	swōr	swor, swoor,	swore
	flōr	flor	floor
	sōhte	sohte, soȝte	sought

moste has passed to (ɐ) through shortened long *u*. A form with *u* occurs in Middle English. Perhaps it was due to labialisation, on the part of the *m*, exerted on an *o* shortened before two consonants. *doth*—In Middle English, the *ō* of the *o*-forms prevailed over and expelled the *e*-form handed down from A.S. *dēð*. Then followed the usual course of the long *o*'s that went to (ɐ). The shortening took place first in the unemphatic position. *enough*, *tough* — In late Middle English *ōu* in *ouh* (parasitic *u* before guttural *h*) had the pronunciation that was usually associated with the spelling *ou*, viz., long *u*. This was shortened in Modern English and went to (ɐ).

-dom—The shortened vowel in the unstressed syllable has naturally passed to the obscure vowel (ə).

wednesday—*o* has been shortened with usual confusion between *wo* and *weo*, cp. *welkin.*

bosom—In these words occurs the later shortening of *u*, which remained. *to* when unemphatic may be reduced to (ə).

blossom, *fodder*—The *o* was shortened in Middle English before two consonants. Short *o* was opened in Middle English. It was lowered in Modern English to its present sound (ɒ). *shod*—Compare for similar shortening *rod* the doublet of *rood* (see below). *hough*—One would have expected *hōh* to have followed the course of *tōh*. Finally it has a *k*-sound. Formerly the final sound was that of *tough.*

slough, &c.—The long *u*-sound that these words, in common with *enough*, &c. (see above), had in Middle English, passed right on to the usual goal of long *u*, viz., (**au**). Compare the pronunciation of *enow*.

came—M.E. *coom coomen* is evidence that the A.S. vowel had been preserved. But on the analogy of *nam*, pret. of *niman*, *cam* was substituted for *coom*. A form *camen* would have its *a* lengthened (page 207). The preterite would then be levelled under the vowel of the singular and the vowel-length of the plural.

hove—The regular M.E. form must have been *hōf* (with close *ō*). This would now have given (**uu**). The analogy of *weave* (A.S. *wefan*) introduced *haf* as a preterite and *hǭven* as a participle. From the long open *o* of the last our *hove* has got the vowel it has developed regularly. The A.S. participle is *hafen* which could only have given (**ei**).

behove ought to have and often does have the pronunciation of *move*, but the comparative infrequency of the word in ordinary speech has permitted the spelling to force the pronunciation. *behoof* (A.S. *behōf*) is regular.

row—M.E. *ōu* A.S. *ōw* (and M.E. *ǭu*, A.S. *āw*) regularly give (**ou**). *woke* should have been (**uu**) but has followed the analogy of the (**ou**) preterites.

(**uu**) is the regular development of *ō*. *smethe*—This will come from the adjective *smēthe* (*i*-umlaut of *ō*). *ooze*—The *w* has been dropped owing to a dislike to the sequence of the two cognate sounds, compare the provincial pronunciation of *woman*, and the different remedy adopted under similar circumstances in the case of *yes*, *yet* (page 227). *woof*—The *w* is due to the influence of *weave*. A.S. *ōwef* is said to be for *on-wef* 'that which is laid on the warp.' *rood* has also a variant *rod*, see *shod* in this list. *slew*, *drew*—The

M.E. *drow*, *slow* (long *u*) yielded to the influence of verbs of the *know knew*, *grow grew* class.

sware shews the analogy of *bare* (page 215). *ār* gives (**äə**). Compare *swore* below. *moor*—*ōr* gives (**uə**). *ore*—Compare *floor* below.

floor—The same result as *moor* has, might have been got, but in some words the *uu* was broadened to (ɔɔ). *swore*—The long close *o* of the preterite gave place to the long open *o* of the participle *swǭren*. *soft*—The long *o* was shortened in Middle English before the two consonants. *o* was opened in Middle English. In the Modern Period lowering took place. The (ɒ) thus got was in many words (page 232) lengthened and narrowed to (ɔɔ). *sōhte* (*brōhte*, *þōhte*) was shortened in Anglo-Saxon. The short *o* thus got would have very much the same development as in *soft*, for the *u* was not pronounced in early Modern. Compare *bought* (page 232).

ū : A.S. *ū* represents Teut. *ū* (I.E. *ū*). Sometimes it is a compensatory lengthening of Teut. *u*.

A.S. *ū* was the long of *u*.

In Middle English, *ū* remained. It might represent not only an original A.S. *ū* but also the group-lengthened *u* that came down from Anglian. Both were often written *ou*.

ū in Modern English has had its first element diverged, unrounded, and widened in the direction of the initial sound of the present diphthong (**au**).

The second element was widened and has taken more or less after the first element, retaining rounding. In some words the *ū*-sound has been retained, in others retained but shortened. When the shortening took place sufficiently early the result has been (**ɐ**) (page 264).

A.S. ū.

ɐ	dūst	dust	dust
	þūma	thoumbe, thoumbe	thumb
	plūme	ploume	plum
	ūs	ous, us	us
	būtan	buten, bute,	but
	scūfan	schouve	shove
	rūh	ruh, rugh, row, rough	rough
u	rūm	roum	room
	brūcan	bruken, brouken	brook
	cūðe	couthe, coude	could
ɒ	grūfa (Norse)	grouelynge	grovel
əə	þūres-dæg (Norse)	þursdai, þursdei	thursday
	fūrlǫng	furlong, fourlonge	furlong
au	þū	þu, þou	thou
	mūð	muð, mouth	mouth
	mūs	mus, mous	mouse
	pūnian	pounen	pound
	drūgoðe	drugte, drouhþe, droughte	drought
	būgan	buwen, bowen	bow
	hū	hu, hou	how
	brū	browe	brow
	ūle	oule	owl
auə	ūre	ure, oure	our
	sūr	sur, sour	sour
	būr	bour	bower
uu	uncūð	unkouth	uncouth
	stūpian	stoupen	stoop

dust—*ū* was shortened before two consonants (page 200). The usual development of short *u* followed. *thombe*—The spelling with *o* is a proof of short *u*. *ous*—The emphatic form with long *u* has been displaced by the short unemphatic form. *buten*, *bute*—This is the weak form, the conjunction; the adverb and preposition were strong, and had forms with *ou*. Certain of the *ū*'s doubtless got shortened at the time when the *ū*'s that came from M.E. *ō* were being shortened.

room, &c.—The sound is retained but shortened. *coude*—The form with voiced consonant is weak and prevailed over the strong form with breath consonant. An *l* was introduced from *should* and *would*. Lack of stress led to shortening, and *l* dropped out of the weak form as in the other verbs. The weak form holds the field.

grouelynge—Here we have shortening, with *o* for *u*. This *o* has followed the *o*-development. There was also a form with *u* which passed regularly to (ɐ) a pronunciation that still survives.

þursdai—Shortening before two consonants appears here. *ur* gives (əə). *furlong*—There is also a M.E. form with *o* arguing shortness.

(au) is the regular development. *þū* is A.S. lengthening of Teut. *u*. *buwen*—*g* has become *w* after *ū*, cp. *draw*.

our—*ūr* gives (auə).

uncouth—Long *u* is here retained, cp. *youth* (page 261). In *stoop* the following labial has helped to keep the quality of the vowel.

ȳ: A.S. *ȳ* is the *i*-umlaut of Teut. *ū*, or of a compensatory lengthened Teut. *u*. It may also represent the *īe*'s that are the *i*-umlauts of *ēa* and *ēo* (Teut. *au* and *eu*). In Kentish, *ȳ* became *ē*, through lowering and unrounding. Hence *ȳ* is sometimes written for *ē* (W.S. *ǣ*.)

In A.S. *ȳ* was the long of *y*.

ȳ was unrounded in Middle English into *ī* and written *i.* It is also represented by *ū* (*ǖ*), and sometimes, according to French habits, by *ui.*

In Modern English *ȳ* follows mainly the development of *ī.*

A.S. **ȳ**.

ɐ	þrȳsta (Norse)	þrusten, thristen	thrust
i	fȳlð	fulðe, filthe	filth
	hȳdde	hidde, y-hid	hid
	lȳtel	lutel, litel	little
ai	lȳs	lis, lys	lice
	cȳ pl.	kie, kye, kyn	kine
	hwȳ	hwi, whi	why
	drȳge	druie, driȝe, drie, dri	dry
	bȳcgan	buggen, biggen, bie, by	buy
aiə	hȳran	huren, huyre, hyre	hire
	fȳr	fur, fuir, fir	fire
oi	bȳle	byle, buile, bile	boil n.

thrust—*ū* shortened before *st,* with usual development of short *u* into (ɐ).

filth, &c.—shortening with usual course of short i. *little*—The A.S. word lost an *e* in inflection. This gave two consonants after the *ȳ.* The plural, &c., thus acquired a short vowel which has prevailed throughout. The long vowel seems to have remained and developed regularly in the proper name *Lyte* (ai). The pronunciation *leetle* is perhaps due to lowering and an *e*-development—cp. *evil,* A.S. *yfel* (page 239).

Orm writes the singular *lītell,* the plural *little.* Compare *hallow* (page 242).

lice—The words in this list have followed the development of long *i*, which has been diphthongised to (ai). *kine* is a double plural got by the addition of *-en*, the levelled form of the A.S. plu. suffix *-an*. The simple plural is seen in the Scotch *kye*, with similar diphthongal development. *driȝe*—After palatal vowels (*e*, *i*) *g* becomes *i* and is merged after *i*. Of course the *i* here is already long. *bȳcgan* (2 pers. sing. *bȳgest*), the *ȳg*-forms have given development, with the same course as in the previous word.

hire, &c.—*īr* gives (aiə).

boil—M.E. *bile* on its road to (ai) had reached the stage (əi). The *ə* here is the obscure vowel, mid-mixed-narrow. The verb *boil* had reached the same sound, for *oi* had passed through (ui) and (ɐi) to (əi). The two words (as sound-groups) were mixed. The spelling with *oi* was established, and by and by drove the pronunciation into a reproduction of the spelling, in fact, restored the original sound. The sound is now (oi), and the verb and noun have the same sound in educated speech, though in the vulgar dialect, *boil*, the noun, has its own historical pronunciation. The word *bile* 'secretion of the liver' (Fr. *bile*) of course developed regularly into (ai). Compare with *boil* vb. and *boil* n. (M.E. *bile*) the words *toil* and *tile* which once had the same pronunciation. But *toil* though its pronunciation was normalised did not as a sound-group carry with it *tile*, which went on to (ai).

For a lengthy number of pages the various developments of A.S. originals have been considered. It will now be requisite to put down the *vice versâ* and trace back each modern development to its principal A.S. originals. This must be done briefly. Actual words illustrating the changes referred to below will be found under the A.S. letters.

ɐ has been got from A.S. u, ū, y, ō.

i has been got from A.S. i, y, ī, ȳ.

e has been got from A.S. e, eɔ, ǣ, æ, ēa.

æ has been got from A.S. a (æ, ea), ǣ.

ɑ has been got from A.S. o, ō.

əə has been got from A.S. eor, er, yr, ir, ur.

ai has been got from A.S. ī, ȳ, i, ih, yh, ēg, ēog, ēoh, ēah, ēag.

au has been got from A.S. ū, u.

ei has been got from A.S. æg, ecg, eg, a (æ ea).

ou has been got from A.S. ā, ōw, ol.

ii has been got from A.S. ē, ēo, e, ēa, ǣ.

yuu has been got from A.S. ēow, ēaw, īw.

uu has been got from A.S. ēow, ēaw, ō.

aa has been got from A.S. e, eo, followed by *r* + cons., and a (æ, ea) followed by *r* + cons., *s* + cons., and by *th*.

ɔɔ has been got from A.S. or, al (æl, eal), ag, war (wear), o (+*f*, *s*, *th*), ŏ̄ht, ă̄ht (æht), aw.

Some remarks were made on these modern developments on pages 197 and 198.

A passing reference to words of Anglo-French origin must suffice. The sounds in these words shared the fate of the similar sounds that existed in the developed Anglo-Saxon of their date. I say *developed* because certain Anglo-Saxon sounds had undergone changes. *ǣ* and *ēa* had given *ę̄* (long open *ē*); *ā* had given *ǭ* (long open *o*); short *e* and *o* had become open sounds; and *g* had been vocalised to *i* and *u*. Long French *ü* was levelled under the *eu* that had been got from A.S. *ēaw*, &c.

The following three lines will go to illustrate the similarity in development alluded to above. *Line* 1 denotes the sounds of the developed Anglo-Saxon; *line* 2 contains words of native origin that have developed these sounds; *line* 3 contains words of Anglo-French origin that have developed the same sounds. The words of native origin are taken from the vowel lists where they may be found with the help of the index.

1.	a	ā	ę	ę̄	ē	i	ī	o	ǭ
2.	man	scale	ferry	east	geese	bill (weapon)	by	on	oak
3.	ban	bale	peril	beast	degree	bill (measure)	cry	honour	cloak

1.	ō	u	ū	ai	ei	au	eu
2.	stool	run full	mouse	day	way (Ch. wey)	draw	dew
3.	fool	plunge bull (edict)	spouse	delay	veil	cause	beauty

beast and *fool* had originally short vowels in Anglo-French. No comparison of the *oi*-sound can be given. It does not occur in words of native origin. For *boil* see page 270. And the *ou*-sound had lost its diphthongic character in Anglo-French, and had become a symbol for the long *u*-sound, being used as such in Middle English.

It is worth while noticing how the Anglo-Saxon originals of these sounds have fared in Scotch. Modern Scotch (not Scotch-English) is really latter-day Northumbrian. It has had a distinct development of its own in which sounds have changed pretty uniformly, subject to comparatively little deflection produced by their surroundings, save that caused by a following *g* or *h*. *r* is always the point-trill and has had nothing like the influence it has had in English. The alterations it effects are chiefly quantitative, not so often qualitative. It ought to be added that Scotch is more retentive of vowel quality than English. For example, the shortened *i* in *sick* is wide in English, but narrow, like its original long in Scotch. Indeed, the long *i*-sound is now wide in English. Here follow, with Murray's spellings, Scotch examples of the Anglo-Saxon originals.

A.S.	Scotch.
a	man (l. b. w.)
ā and â	steane and neame (h. f. w. + m. f. w.)
ę	mæn (l. f. w.)
ēa	eist (h. f. n.)
ē	feit (h. f. n.)
i and y	blynd and hyll (m. f. w.)
ī	weyfe (m. f. w. + h. f. n.)
o	on (m. b. w. r.)
ō	stuil (m. f. n. r.)
u	grund (m. b. n.)
ū	mooss (h. b. n. r.)
æg	day (m. f. n.)
eg	waiy (m. f. n. + h. f. n.), or as in day
ag	draa (l. b. w., long)
ēaw ēow	deuw and bleuw (m. f. n. r + h. b. n. r., before a cons., as in stuil).
ōw	growe (m. b. w. r. + h. b. n. r.)
āw	blaa (l. b. w., long)

Note that *blind* and *ground* have not been group-lengthened in Scotch.

A.S. *ā* was not rounded in Scotch but along with lengthened *a* (before consonant + vowel) passed to present sound. A.S. *āw* levelled under *ōw* in English has had the same result as *ag* in Scotch—cp. *draa* and *blaa* (A.S. *dragan* and *blāwan*). *oi* in Scotch has two values. Thus *boyl* in the South has the sound of mid-back-wide-round followed by high-front-narrow; *beyle* in the centre and north has the sound of mid-front-wide and high-front-narrow.

A few examples of noticeable Southern Scotch developments of A.S. sounds before gutturals will not be out of place. In this dialect the guttural after back vowels is labialised (cp. G. *auch*), after front vowels it is palatalised. In the other dialects occurs the ordinary guttural with occasionally a different vowel-sound. After a high-front-narrow and a high-back-narrow-round a simple guttural also occurred in Southern Scotch.

From **āh**—*auwcht* (l. b. w. + h. b. n. r., A.S. *āhte*), **ah**—*leawch* 'low' (m. f. n., long) and *lauwch*; from **eoh**—*fæycht* (l. f. w.), **eah**—*æycht*; from **ih**—*neycht* (m. f. w.); from **ōh**—*dowchter* (m. b. w.), **oh**—*sowcht*; from **ōh** also *leuwch* 'laughed' (m. f. n. r., A.S. *hlōh*); from **ūh**—*ruwch* 'rough' (m. b. n.).

ēag—Scotch *ey* 'eye' has in south the value mid-front-wide + high-front-narrow, in other dialects it is written *ee*, and has the value high-front-narrow (long).

ūg—*buw* 'bend' with value mid-back-narrow + high-back-narrow-round in south, elsewhere it has the value high-back-narrow-round.

ȳg—*drye* with value low-back-wide + high-front-narrow.

The sound heard here is the nearest Scotch equivalent to English long *i.*

Anglo-Saxon consonants, their passage to, and representation in, Modern English, will now be the subject of some remarks.

b: A.S. *b* occurs initially. Medially and finally it appears geminated, or in the group *mb.*

In the present language A.S. *b* appears as *b—bind, dumb, web* (*bindan, dumb, wębb* (Teut. *bj*)); as *p—gossip* (*godsibb*). *p* occurs in *unkempt* for *unkembed* (*cęmban* 'to comb,' umlaut from *camb* (Gk. *γόμφος* 'bolt')). *b* has disappeared in *oakum* (*ācumba* 'tow'). Though written it is not now pronounced in the group *mb.*

Our *b*, like the Anglo-Saxon letter, is the lip-stop-voice.

For *developed b* see under *m.*

c: A.S. *c* had two values, back-stop and front-stop. It remained back before back vowels and umlauted vowels (and before consonants)—*a*(*ǫ*), *o*, *u*, *ā* (Teut. *ai*), *ō*, *ū*, *ǣ* (umlaut of *ā* = Teut. *ai*); *ę*, *y*, *œ* (umlaut of *o*), *ȳ*, *ǣ* (*ē*), but was fronted before all vowels that were front before mutation began. This is apparent from the Modern English words that derive from A.S. initial *c.* From *back c—care, come, coal, cool, cow, key, kiss, keen, clean* (*caru, cuman, col, cōl, cū, cǣge, cyssan, cēne*(*ǣ*), *clǣne*). This *c* was in Middle English sometimes written *c*, sometimes *k* (page 190). From *front c—chin, churl, cheek* (*cinn, ceorl, ceoce*). In Anglo-Saxon, front *c* was represented by *c*, but at the Norman Conquest, it was, according to French (Central French) fashion represented by *ch*, with pretty much the sound of *ch* in *child.* In French, this sound developed into the *sh*-sound of Modern French.

Final *c* is represented by *k*—*ark* (*earc*). Final *cc* (sometimes *c*) is represented by *ck*—*cock* (*cocc*). *cw* was displaced by French *qu*—*queen* (*cwēn*).

When *c* followed front vowels, *ch* was often developed through influence of inflectional front-vowel *e*—*which*, *such*, *pitch* (*hwilc*, *swylc*, *pic*). The spelling of the last word leads one to notice that *tch* (M.E. *cch*, *chch*) is the regular representative of doubled *c*—*flitch* (*flicce*).

This sound is regularly written *ch* after long vowels—*coach*, *teach* (*tǣc*(*e*)*an*). After a short vowel *tch* often occurs —*pitch*, *ditch* (*dīc*), but sometimes *ch*—*rich*, *much*, &c. After a consonant, *ch* is written—*quench* (*cwencan*), *which*, *such*. In these two last the consonant *l* is now lost.

ch is sometimes voiced into a *j*-sound—*knowledge* (M.E. *knowleche*), (*Green*)*wich*. It is written *j* in *ajar* (M.E. *on char*, A.S. *on*, *cęrr*).

ch has disappeared in *I*, *every*, *barley*, *lent*, *made*, *drown* (*ic*, *ǣfre*, *ǣlc*, *bǣrlic*, *lęncten*, *macode*).

A.S. *sc* is usually *sh* (M.E. *sch*) in the present language —*shake* (*sc*(*e*)*acan*), *fresh* (*fersc*), but occasionally *sk* (by-form in *ks*, *x*)—*ask* (prov. *ax*). Note also *mussel* (A.S. *muscle*).

It should be noticed that Northern forms exhibit *k* for Southern *ch*. Compare *kirk* and *church*, *seek* and *beseech*.

The *k* in *kn* is now no longer sounded.

The *fronted k* that is heard in provincial English (and in American) in words like *cart* is an effect that was produced by the previous stage of (aa) viz., the front (ææ) (p. 214). Compare under *g*.

The present hard *c* is the back-stop-breath.

The word *ache* might have been noticed above. There was an A.S. verb *acan* which gave in Middle English *aken*, and an A.S. noun *ęce* which gave in Middle English *eche.* The modern word is a blending of the vowel of the verb and (as far as form goes) the *ch* of the noun. The noun *ache* once had the *ch*-sound.

d : In Anglo-Saxon and Middle English instances occur of the loss of sonancy that is seen in our *dwelt* for *dwelled.*

Of course A.S. *d* appears now as *d.* It also appears as *t*—*reft*, *wont*, *leant*, *tilt* 'canvas covering' (*rēafode*, *gewunod*, *hlǣnde*, *teld*); and as *th* (voiced), when preceded by a vowel and followed by *r*—*father*, *mother*, *gather*, *weather*, *hither* (*fæder*, *mōdor*, *gædrian*, *weder*, *hider*).

Assimilation occurs in *winnow*, *gossip* (*windwian*, *godsibb*). *d* has disappeared in *tine* 'tooth of a harrow,' *lime*, *woodbine*, *wanion*, *answer*, *gospel* (*tind*, *lind*, *wudubind*, formerly *waniand* (*wane*, part. taken for noun), *ǫndswaru*, *godspell*). *upholsterer* was once *upholdster.* Notice *iron mould*, once *yron-mole* (A.S. *māl* 'spot'), and *newfangled*, once *newefangel* (A.S. *fōn* (*fangan* 'to catch')).

In words like *verdure*, the *d*+*y*-sound has with some speakers passed into a *d*+voiced *sh*-sound. Compare *she* and *sure* (page 290). See also under *t.* A *d*-sound is disappearing in words like *singe.*

Our *d*, like the Anglo-Saxon letter, is the point-stop-voice.

ð : A.S. ð between vowels or vocalic sounds was voiced. Initially, there was probably a voiced as well as a voiceless variety. Finally, it was, in West-Saxon, probably voiced. In the combinations *t*ð, *d*ð, *s*ð, the ð passes to *t.* *d* is assimilated. The results are *tt* and *st*. *þs* usually passes to *ss*. The Gothic þ was voiceless in all positions.

In the Southern dialect of Middle English this letter was voiced. In the Midland and Northern dialects there was an initial and final breath sound possibly inherited from the Anglian.

As to the orthography, þ gradually ousted ð, being itself replaced, in French fashion, by *th*.

To the voiced sounds in the present weak *the*, *that*, *they*, *then*, *there*, *though*, and *with*, there were opposed in Middle English the breath sounds of strong forms.

In Scotch the *th* of *though* and *with* is a breath sound.

In the present language *th* when initial except in the above words is a breath sound. Finally, it is also breathed (except in *with*, and the vbs., *mouth*, *bequeath*, *smooth*)—*loath*, *breath*, *bath*. To these are opposed the voiced sounds in *loathe*, *breathe*, *bathe*. The voiced sound is due to the fact that these words were intervocalic in Middle English. In certain plurals in *ths* the *th* is said to be voiced (not in Scotch)—*baths*, *cloths*, *mouths*, *truths*, *oaths*, *paths*, *laths*, *wreaths*. The *th* of some words, owing to a weathering of terminations, is now final, with consequent change from voice *th* to breath *th*—*earth*, *beneath*.

A.S. ð is of course represented by *th* in Modern English. It is also represented by *t*—*stalwart*, *lest*, *sight*, *eyot*, *nostril*, *husting*(*s*) (*stǣlwierðe*, *ðȳ lǣs ðe*, *gesihð*, *ēgað*, *nosðryl*, *hūsðing*); and by *d*—*cou*(*l*)*d* (*cūðe*) (see A.S. ū). It is after *r*, and before *r* and *l*, that *d* usually appears—*burden*, *murder*, *afford*, *spider* (M.E. *spither*), *rudder*, *swaddle*, *fiddle* (*byrðen*, *myrðran*, (*ge*)*forðian*, *spīðre*, *roðor*, *swę̄ðel*, *fiðele*). For examples of assimilation take *lissom* (*lithe-some*), *Surrey*, *Sussex*, *Suffolk* (*līðe*, *Sūðrige*, *Sūð-Seaxan*, *Sūð-folc*). ð has also dropped—*wrist*, *worship*, *Norwich*, *sin*(*ce*), *or* (*wrist* for *wrīðst*, from *wrīðan*), *weorðscipe*, *Norðwīc*, *sīððan*, *āhwæðer*). Note *wrath* and *moth* (*wrǣððo*, *moððe*). The *th*-sound has, as in Anglo-Saxon, two values, the point-teeth-open-breath and the point-teeth-open-voice.

f: A.S. *f* represents Teut. *f* and *v*. It was voiced between vowels, and after *r* or *l* followed by a vowel. Probably it was also voiced finally, and perhaps initially, except in the Northern dialect. This seems to be Sweet's conclusion. Sievers speaks of initial surdness. *f* in Gothic was a breathed letter. It was *b* there that medially after vowels had the sound of *v*. *f* was and would remain breathed in combinations like *fs*, *ft*, *ff*.

In the Southern dialect of Middle English *f* was voiced. It was written *v* initially, and medially, but not finally, because confusion with vocalic *u* would have ensued. To avoid confusion *f* is also written before voiced letters. French words, however, being introduced later, kept their breathed *f*.

In the Midland and Northern dialects there was an initial and final breath *f*, possibly inherited from the Anglian.

The present voicing and breathing in weak *of* and strong *off* (both A.S. *of*) would naturally exist in Middle English.

f is now pronounced everywhere when written, even between vowels, as in *wife* and *life*. *Of* and its compounds, *where-of*, &c., are exceptions. Certain words that had *v* in Middle English we now write with *f*—*belief*, *sheriff*.

A.S. *f* appears in Modern English as *f*—*father*, *deaf*, *wolf*, *fifty*, *chafer* (*fæder*, *dēaf*, *wulf*, *fīftig*, *ceafor*; as *ff*—*staff* (*stæf*); as *v* (between vowels very common)—*cove*, *raven*, *harvest*, *wolves* (*cōfa*, *hræfn*, *hærfest*, *wulfas*). In Northern Scotch the *f*-sound is to be heard in certain intervocalic plurals—*wyffis.*

Only a few words appear in English with Southern initial *v*—*vane*, *vat*, *vixen*, *vinewed* 'mouldy' (*fana*, *fæt*, *fyxen*, *fȳnegod*, p. p. of *fȳnegian* 'to become mouldy').

For examples of vocalisation take *hawk*, *newt* (page 222), *auger* (*hafoc*, *ęfete*, *nafogār*). *f* has been assimilated in *lammas* (*hlāfmæsse*). It has been dropt in *lord*, *lady*, *head*, *anent*, *anthem*, *stem* (*hlāford*, *hlǣfdige*, *hēafod*, *ǫn efen*, *antefn*, *stefn* (*stemn*)).

Our *f* is, as was the A.S. voiceless *f*, the lip-teeth-open-breath.

g: As in the case of *c*, A.S. *g* was kept a back consonant before back and umlaut vowels (and before consonants), but fronted before vowels that were front before umlaut operated. This is proved by the spelling of the following modern words deriving from A.S. initial *g*. From *back g*—*gold*, *goat*, *gild*, *geese*, *glad* (*gold*, *gāt*, *gyldan*, *gēs* (*ǣ*), *glæd*). From *front g*—*yield*, *yarn*, *yellow* (*geldan*, *gearn*, *geolu*). Many modern words have *g* where *y* was to be expected. This is due to the fact that they are Norse words—*girth* ; or Northern forms—*give* (Ch. *yiven*), *get* ; or to the fact that the back *g* of other forms has ousted the front *g*—*begin* (with *g* from *begann*). Different vowels in cognate forms may also yield different results—*gate* from A.S. plu. *gatu*, *yate* (Northern) from A.S. sing. *gæt.*

Note also the representation of hard *g* by *gu* and *gh*, as in *guest* and *ghost.*

The back stop occurred finally in *ng*. This is borne out by modern words—*sing*, *long* (A.S. *singan*, *lang* (*ǫ*)). Also in *cg* after unmutated vowels *frocga* ‘frog,’ *docga* ‘dog.’ But when *ng* or *cg* (doubled *g* = Teut. *gj*) was preceded by an umlaut vowel the *g* was front-stop, as in A.S. *sęngan*, *brycg*. The *ng* and *cg* have here developed into the sounds heard in modern *singe* and *bridge*.

According to Sweet A.S. *g* represented four sounds, two stop and two open, with a back and front variety in each. Sievers holds that A.S. *g* was an open rather than a stop sonant. Teut. *j* was levelled under open *g*.

Initially, in Anglo-Saxon, *g* was either the open or stop variety. Uninitial *g* was an open consonant either front or back; front-open before Teut. *i*, *j*—*folgian*, and when an open *g* after a front vowel was final or followed by a front vowel—*dæg*, *dæges;* back-open when preceded by a back vowel (*r* or *l* may come between) either finally or medially—*trog*, *genōg*, *burg*. This *g* was later on unvoiced to *h*. It was also back-open though preceded by a front vowel, if a back vowel followed. Front-open and back-open *g* were often assimilated by succeeding breaths and written *h*. They are dropped after front vowels when followed by the voice letters ð, *n*, *d*—*sǣde* for *sægde*. Front *g* is dropped in *-ig*—*stīward* for *stigweard*.

In Middle English, front *g* became everywhere ʒ—we now write *y*—except in *ng* and *cg* preceded by umlaut vowel, *e.g.*, M.E. *sengen*, *brigge* (A.S. *sęngan*, *brycg*). The symbol *g* was used to denote the sound heard in these words.

ġ of course represented the stop *g*. French soft *g* was also written *g*, but when initial usually *j*. In the Ormulum, back-open *g* was written *ʒh*.

Initial ʒ (Teut. *j*) has dropped off (sometimes in Middle English)—(*ic*)*icle*, *if*, *itch* (A.S. (*īs*)*gicel*, *gif*, *gicc*(*e*)*an*).

Initial ȝ (Teut. *g*) has sometimes had the same fate—*enough* (M.E. *inōh*, A.S. *genōh*), *yclept* (*gecleopod*). Compare *handiwork* (*handgeweorc*).

Examples of the vocalisation of *g* after vowels have occured in the vowel lists. By way of recapitulation one example will now be given of each occurrence.

A.S.	Mod. E.	Examples.
ag	aw	saw (sagu)
æg eg	ai, ay	slain, rain, may (slægen, regen, mæg)
ig	i, y, ey	nine, many, honey (nigon, manig, hunig)
yg	ye, ie	rye, tie (ryge, tyge)
og	ow	bow (boga)
ug	ow	sow (sugu)
āg	ow	own (āgen)
ǣg	ay, ey, ei	clay, grey, neigh (clǣg, grǣg, hnǣgan)
eag	ye	eye, lye (ēage, lēag)
ēog	ie, y	lie, fly (lēogan, flēogan)
īg	ie, i	hie, friday (hīgian, frīge-dæg)
ōg	oo	woo (wōgian)
ūg	ow	bow (būgan)
ȳg	y	dry (drȳge)

Note also the vocalisation of *g* after *r*—*morrow* (A.S. *morgen*).

Note also the transformation of *g* in these—*henchman* (A.S. *hęngest-mann* 'horseman'), *orchard* (A.S. *ort-geard*).

g before *n* is not now sounded.

The fronted *g* that is heard in provincial English (and in American) in words like *garden* is an effect that was produced by the previous stage of (aa), viz., the front (ææ) (p. 214). Compare under *c*. The present hard *g* is the back-stop-voice.

h : A.S. *h* had three values—throat-open, back-open, front-open. Initially and medially before a vowel it was a mere breath. Medially and finally it was the back-open or front-open according as a guttural or palatal vowel preceded. Before *t* in *ht* it was the front-open (see Chap. VIII., under i).

In Middle English, it dropped from weak (*h*)*it* in the Midland and Northern dialects. It was also dropped in initial *hr*, *hl*, *hn*. *hw* was kept and sometimes written *wh* (lip-back-open). In the North it became the rounded back-open, a sort of labialised guttural. This was written *quh* (*qu*).

Medially and finally, it was in Middle English either the rounded back-open, or the front-open, according to the character of the preceding vowel. In writing it was expressed by *h*, ȝ, and finally by *gh* (page 192). On the addition of an *e*, *h* became *w*.

In the Modern Period, initial *h* was dropped very generally in speech, but its retention in writing, and the influence of Scotch and Irish speakers of English have led to its resuscitation in speech. It is even now sounded in many French words where it was originally mute. Medially and finally, it has now either the sound of *f*, or is mute.

A.S. *h* appears in Modern English as *h*—*hill* (A.S. *hyll*), &c.; as *wh* (when *o* follows)—*whole* (A.S. *hāl*). Medially and finally, it appears as *gh*—*night*, *brought*, *taught*, *tough*, *laughter*, *dwarf* (*niht*, *brohte*, *tǣhte*, *tōh*, *hleahtor*, *dweorh*). Most of these have been mentioned in the vowel-lists, and may be found from the index.

A.S. *hr*, *hl*, *hn* appear as *r*, *l*, *n*, in their modern descendants—*rime*, *lord*, *nit* (*hrim*, *hlāford*, *hnitu*). A.S. *hw* appears as *wh*—*who* (*hwā*). Initial *wh* is not always to be carried back to *hw*. For example *whit* and *whelk* are to be referred to A.S. *wiht* and *wiloc.* Notice the disappearance of *h* in *fee*, *lea*, *not* (*nought*), *wassail* (*feoh*, *lēah*, *nāht*, *wæs hǣl*).

Our *h* is the throat-open-breath.

l: A.S. *l* disappears in many words—*much*, *such*, *each*, *which*, *wench*, *bad*, *England*, *spot* (*mycel*, *swylc*, *ǣlc*, *hwilc*, *węncel*, *bæddel* sb. 'effeminatus,' *Engle-lǫnd*, *splott*). An *intrusive d* appears between *l* and *r* in *alder* (*alr*). *l* is now dropped in the pronunciation of many words—*half*, *calf*, *walk*, *folk*, *yolk*, *should*, *would*, &c.

Our *l* is, like the Anglo-Saxon letter, the point-side-voice.

m: A *b* (now silent) attaches itself to this letter—*thumb*, *crumb*, *numb*, *limb* (*ðūma*, *cruma*, *genumen*, *lim*). Between *m* and *l*, *m* and *r*, a *b* is commonly developed—*thimble*, *shamble*(*s*), *slumber* (*ðȳmel*, *scamol* 'stool,' *slūmerian*). A *p* also sometimes appears between *m* and *t*—*empty* (*ǣmtig*). Compare *glimpse* (M.E. *glimsen*).

Notice *ant* from *amte* (A.S. *ǣmete*), and compare *account* from *accompte.* *Emmet* also occurs.

Our *m* is, like the A.S. *m*, the lip-nasal-voice.

n: A.S. *n* has disappeared in these—*game*, *holly*, *penny*, *mistletoe*, *eleven* (*gamen*, *hole*(*g*)*n*, *pęning*, *mistel-tān*, *ęnd-lufon*). Compare *auger* and *adder* which have both lost initial *n* (*næddre*, *nafogār*). A *d* sometimes attaches itself to this letter—*lend*, *pound*, *round* 'whisper,' *bound* 'ready to go,' *horehound* (*hoarhound*) (*lǣnan*, *pūnian*, *rūnian*, Norse *būin*, *hārehūne*). This sound is developed between *n* and *r*, *n* and *l*—*thunder*, *kindred*, *spindle*, *dwindle* (*ðunor*, *cynrǣden*, *spinel*, *dwīnan*).

For examples of assimilation take *dross*, *ell* (*drosn*, *ęln*). *n* is *intrusive* in *nightingale* (A.S. *nihte* gen., *gale* 'singer').

Compare *messenger*, *passenger*. *bittern* had no *n* in Middle English (*bitour*). It is French in origin. The *n* in *newt* (A.S. *ęfete*) and *nickname* (an *ekename*) has got attached in the sentence life of the words, and comes from the article *an*. Compare *nonce* where the *n* comes from the dative of definite article (A.S. *ðām*, (*ðān*)). Chaucer has *for the nones*.

Note *wimple* (A.S. *winpel*), *hemp* (A.S. *hænep*). *Periwinkle* 'winkle' is from A.S. *pinewincla*.

Our *n* is, like the A.S. *n*, the point-nasal-voice.

p: Besides appearing as *p*, A.S. *p* appears as *b*—*lobster*, *pebble*, *cob*(*web*) (*loppestre*, *papol*, *āttor-coppe* (M.E. *attercop* 'spider'). The last word is to be heard in Scotch as *nettercap*, with inorganic *n*, as in *newt*.

For example of assimilation take *chaffer*, a verb formed from a substantive (M.E. *chaffare*, A.S. *cēap* 'purchase, *faru* 'journey').

Our *p*, like the Anglo-Saxon letter, is the lip-stop-breath.

For *developed p* see under *m*.

r: A.S. *r* was a full point-open-voice as in Scotch. In the commentary on the vowel lists the effect of *r* on preceding vowels has often been alluded to. It has been seen that even in Middle English it broadened vowels into *a*. It is a sound that has always favoured the generation of vowel sounds before it. Compare the Anglo-Saxon breaking before *r* + consonant. Later on, in the Modern Period, *e*, *i*, *u* followed by *r* were levelled by its influence under obscure vowel *ə*. Long vowels, too, suffered broadening.

In the present Standard language, *r*, except before a vowel, is a mere voice-glide. As such it is heard finally, and before a consonant. Even this is sometimes merged in the preceding vowel.

A.S. *r* often suffers metathesis. Many instances have appeared in the vowel-lists. Additional examples are—*grass*, *cress*, *fresh*, *wright*, *third* (*gærs*, *cęrse*, *fersc*, *wyrhta*, *ðridda*).

It has disappeared in *speak speech* (A.S. *sprecan*, *sprǣc* later *specan*, *spǣc*).

r is inserted in *bridegroom* (A.S. *brȳd-guma*).

paddock is from A.S. *pearroc* 'park,' *bass* (the fish) from A.S. *bærs*.

s: A.S. *s* between vowels or vocalic sounds was voiced. Initially, there was probably fluctation. Finally, it was probably voiced in West-Saxon. Naturally it was and would remain a breath-sound in combinations like *st*, *ss*, &c. The Gothic *s* was voiceless.

In Middle English, *s* was voiced in all positions in the Southern dialect. When initial, and before a vowel, it was written *z* in certain texts. Sometimes, medially and finally, *z* was written, but generally *s* represented the voiced as well as the voiceless letter. The *s* of French words was not voiced. The voicing was over. These would reinforce the hissed *s*.

ss was sometimes, owing to French influence, written *sc*. And later on in Middle English, *ce* was, after French habits, used to denote a final hissed *s*. In the Modern Period *sc* in some words replaced *s* initially—in *scent*, *scite*, *scituation* and in the native *scythe*. It has remained in the first and last words.

In Middle English there would exist strong hissed forms of *is*, *his*, *was*, *has*, along with the then developing and now prevalent weak buzzed forms.

In the Midland and Northern dialects there was an initial and final breath *s*, possibly inherited from the Anglian.

In Modern English initial *s* has always the hissed sound. Plural *s*, and the *s* in weak syllables generally (unless following surd letters) have buzzed sounds. Emphatic monosyllables like *geese* have a hissed *s*. Compare the hiss heard in the substantives *house mouse*, with the buzz heard in the verbs *house* and *mouse*. When *house* is made into plural *houses* the first *s* becomes buzzed. Not so in Scotch. There the plural has its first *s* a hiss, as in the singular. The second *s* is of course a buzz.

The buzzed sound of medial and final *s* is not always indicated by the spelling. This is done in *wheeze*, *freeze*, *hazel*, &c. Compare the alternation of buzz and hiss in *graze* and *grass*, *brazen* and *brass*, *glaze* and *glass*. *glazier* has had its buzz fronted to voiced *sh*. *rise* and *choose* have a buzzed *s*.

The *s* here was intervocalic. *rose* and *chose* have also the buzzed letter. The *s* here was final in Middle English. The infinitives helped them to the buzz. The *s* in *wise* (A.S. *wīs*) is buzzed. The *s* would be intervocalic in the inflectional forms. In Scotch, *wise* has a hissed *s*.

Notice the buzz and hiss in words like *exert* and *exercise*. In the first the *s* comes between an unaccented and an accented vowel, in the second between an accented and unaccented.

A.S. *s* appears in Modern English as *s*—*sun*, *thirst*, *kiss* (*sunne*, *ðyrst*, *cyssan*); as *ce*—*ice*, *mince*, *mice* (*īs*, *minsian*, *mȳs*);

as *z*—*adze, hazel, dizzy* (*adese, hæsel, dysig*); as *ch*—*linch-*(*pin*) (*lynes* 'axle-tree'); as *sh*—*she* (*sēo*). A.S. *sēo* in its weak form shifted stress to second element. The *s* with the indistinct first element of the diphthong passed to *sj* and then to *sh*-sound. *She* takes its present shape and sound from a blending of the initial consonant of the weak form with the vowel of the strong. Compare the modern change of *s* in *sure* into *sh*-sound.

ss has become *s* in *alms* (A.S. *ælmesse*). *alms* is a singular like *eaves* (A.S. *ȩfes*). Contrast *bodice* which really is a plural, equalling *bodies*. *st* has given *ss* in *blossom* (A.S. *blōstm*). *s* has sometimes changed places with the preceding consonant—*wasp, hasp* (A.S. *waps, hæpse*). *s* drops in some words—*burial, riddle, paddle* (A.S. *byrgels, rǣdels, spadu*). *Pea* is a manufactured singular from M.E. *pese* (later *pease*) (A.S. *pisa*, L. *pisum*). *s* has been foisted into *island* (M.E. *iland*, A.S. *īgland*) from the analogy of the French *isle*. Notice (*be*)*hest* and *hoarse* (A.S. *hǣs, hās*).

Our hissed *s* is, like the A.S. hissed *s*, the blade-open-breath.

t: A.S. *t*, besides appearing as *t*, sometimes shews voicing—*proud, pride* (*prūt, prȳte*). It also appears as *th*—*swarth*(*y*), *anthem* (*sweart, antefn*). *lath* is from A.S. *lætt*.

bless (A.S. *blētsian*, umlaut from *blōd*) is an example of assimilation.

t has disappeared in these—*anvil, gorse, best, last, Essex, Sussex* (*anfilte, gorst, bȩtst, latost, East-Seaxan, West-Seaxan*). Compare *ado* for *at-do*.

t is often attached to words in *s*, perhaps owing to the influence of the termination *st*—*against*, *amongst*, *whilst*, (*whiles*), *behest*, *earnest* sb. (M.E. *ernes*). The *s* in *against*, &c., is an adverbial suffix representing an original genitive case. *t* is also attached in *anent* (A.S. *anefn*).

In words like *nature*, the *t*+*y*-sound has with some speakers passed to *t*+*sh*-sound. See under *d*.

t when preceded by *s* and *f*, and followed by *l*, *n*, *m*, is dropped in pronunciation (not always in Scotch)—*castle*, *fasten*, *christmas*. In words like *milch* and *bench*, the *t*-sound is being dropt.

Our *t* is, like the A.S. *t*, the point-stop-breath.

w: A.S. *w*, when final, is after consonants often vocalised to *u*(*o*)—*geolu*. It is vocalised and forms a diphthong with the preceding originally short vowel—*trēo cnēo*. The *w* is here often added, taken as it is from the oblique cases. *we* and *wa* after *l* and *r* appear in Modern English as *ow*—*swallow*, *yellow*, *arrow*, *sparrow* (*swealwe*, *geolwe* plu., *ar*(*e*)*we*, *spearwa*). *soul*, *four* are from A.S. *sāwol*, *fēower*.

w has disappeared in *ooze*, *root* vb., *lisp*, *lark*, *thong*, *fret*, *so* (*wōs*, *wrōtan* (*wrōt* 'snout'), *wlisp* adj., *lāwerce*, *ðwǫng*, *frætwan*, *swā*). The *w* in *answer*, *sword*, though written, is not pronounced. In *answer*, the *w* is in the unaccented syllable. *w* in the combination *wr* is now silent. The combination *wh* has in Southern English the same sound as *w*.

In Modern English, as in Anglo-Saxon, *w* is the lip-back-open-voice.

x: A.S. *x* remains—*axe* (*æx*).

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